B.T.C. CHAIRMAN ON TRANSPORT ORGANISATION

See Pages 2 and 3

MODERN TRANSPORT

"THE TIMES" OF THE TRANSPORT WORLD

VOL. LXXIX No. 2045 [*Registered at the G.P.O. as a newspaper*] LONDON, JUNE 7, 1958 PRICE NINEPENCE

C.I.E. CHAIRMAN DISCUSSES DIESEL TRACTION

See Pages 5 and 11

CURRENT TOPICS

Bus Strike Deadlock

AS we go to press a special meeting of the T.U.C. general council is being held, after a further visit to the Prime Minister and a fresh offer of consultation from Sir Sir John Elliot, to consider the breakdown in negotiations for a settlement of the London bus strike. Short of flouting the award of the Industrial Court Sir John Elliot seems to have gone to the limit in his weekend offer to Mr. Frank Cousins, whose attitude was nevertheless later unanimously endorsed by the strikers' delegate conference. Under the new proposals the Central busmen would receive from the day on which duties were resumed the 8s. 6d. a week awarded to them, and from the same date the Green Line single-deck coach drivers would get "an agreed increase" (drivers on scheduled double-deck Green Line vehicles receive Central area rates). For the remainder of the staff—Country bus drivers and conductors, Green Line single-deck conductors and garage maintenance staff—a joint review of wages would begin immediately following resumption of work and be completed within one month. All this was a distinct advance on the L.T.E. pre-strike offer of April 28, that if the 8s. 6d. increase to the 36,000 Central busmen were accepted and the strike called off the L.T.E. would re-examine *in the autumn* the wage rates of the 14,000 in other grades to whom no award had been made, whilst those of the 720 Green Line drivers would be considered before the autumn. Nevertheless Mr. Cousins and his 13-man committee, after 14 hours of negotiation with Sir John Elliot and his colleagues, failed to agree to the revised terms and insisted instead upon an immediate 4s. a week token payment to the workers concerned until completion of the wages review, a suggestion which found no favour with the other side.

From Buses to Tubes

AT a subsequent Press conference poignancy was given to a warning uttered before the strike began—that it could only result in less employment and fewer buses—when Sir John Elliot bluntly announced that whether the union accepted his proposals or not there must be a further 10 per cent cut in London bus services. This would be additional to the 4 per cent cut introduced on April 30, with the result that at least 500 buses would be taken out of service in October, with a reduction of 2,500 in busmen and a consequent reduction in maintenance staff. By such means it is hoped to save about £2 million on the buses, which is roughly equivalent to the present annual loss on the tubes, although that does not allow for increased costs that could result from longer trains or increased off-peak services. Indeed, it is the intention now to get more people on to the Underground and to persuade those diverted there by the bus strike to continue to use it. This is good policy if it means more traffic for the tubes in the off-peak hours; and even more traffic in the peaks must encourage more staggering. Fewer buses will not mean dismissals, as there is a shortage of 2,800 bus employees now; more than 800 have left for other employment since the strike began. "With the congestion in the streets the heyday of the bus is gone," said Sir John Elliot. Replying to questions, he said that the strike had proved to be a flop; he confessed that his attitude was a tough one and he felt public opinion was behind it. He would never change his mind about the sanctity of the arbitration award and he was not prepared to tear it up because the union would not accept it.

Prime Minister's Suggestions

THE talks, which went on last Saturday and Sunday and are summarised in a statement published on page 11, were arranged on the initiative of Mr. Cousins after the intervention of the T.U.C. following the abortive conference between the parties earlier last week. Sir John Elliot agreed to meet Mr. Cousins and his committee after meetings between the T.U.C. and the Prime Minister and the Minister of Transport. Sir John told the Press that the Prime Minister, who had made useful suggestions, had nonetheless said that he did not think it right to bring any pressure upon the L.T.E. to alter its position. The wages position throughout the bus industry is at the moment in suspense, and this fact cannot of course have been ignored by the L.T.E. Claims on behalf of the municipal and provincial company busmen are before the joint wages tribunals, the decision in the former case being due on Friday of this week and that of the latter on Monday. Claims in respect of men in the railway workshops are also due for reconsideration next week. Meanwhile the implications of the London bus strike are reflected in the latest B.T.C. traffic receipts. During the four weeks to May 18 (which included two weeks of the strike) London Transport passenger receipts from road services were £2,220,000 lower than in the previous month, whilst in the same period its receipts from railways rose by £257,000. So far this year total L.T.E. passenger receipts, at £29,016,000, are £3,230,000 lower than in 1957.

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Commonsense in Wages Demands

AMIDST a spate of somewhat unrealistic wages demands it is good to find one trade union leader questioning whether the movement is playing its part towards solving the problem of inflation, misguided though Government methods in dealing with the economy may by some be regarded. Addressing this week the annual congress of the National Union of General and Municipal Workers, Mr. J. Cooper, its chairman, called for a new approach by the T.U.C. Surely, he said, it was better to have moderate wage increases under a stable price level than excessive increases that are swallowed up by rising prices and leave the recipients no better off at all. Despite the folly of official policies they were not justified as a movement in seeking a head-on clash with the Government or committing industrial suicide. "We should," he said, "be willing to look for modest, real wage increases instead of demanding substantial concessions which, if realised, can only aggravate our economic difficulties. Such a change in attitude would at least provide a positive contribution that the T.U.C. could take to any Government as a real gesture of co-operation in solving this problem." Of the three obvious choices—to take all that could be got, which was the road to chaos; to fail to do anything oneself and be forced to learn the hard way from outside; or, in spite of all difficulties, to promote claims and policies which one knew could be realised—the last was the sensible way. As Mr. Cooper pointed out, this calls for co-operation and co-ordination among all unions, and it is to be hoped that his wish that the general council of the T.U.C. will do something more to foster this line of approach will in due course be fulfilled.

Improved L.M. Train Services

TWO new Anglo-Scottish expresses—a morning Caledonian from Euston to Glasgow and an afternoon Caledonian in the opposite direction—are features of the new London Midland Region timetable to be introduced on Monday, June 9. The trains will cover the 401-mile run in 405 min. with stops at Crewe and Carlisle on the northward journey and at Carlisle and Stafford coming south. The new expresses will augment the two existing crack trains of that name which cover the distance in 400 min. with a morning run out of Glasgow and an afternoon run from Euston. The new morning Caledonian from Euston, in addition to enabling many Scottish resorts, such as Oban, to be reached without overnight travel, will give a "same day" service from London to Belfast for the first time since the war, and, by means of a stop at Crewe, will provide a new Birmingham—Glasgow service. The up afternoon Caledonian will be the fastest on the L.M. Region, booked to run 133 miles Stafford—Euston at 66.75 m.p.h. There will be 43 60-m.p.h. bookings. New diesel railcar services will be operated in the Manchester, Royton, Oldham, Rochdale and Bolton area.

Double Bill at Dunstable

WHEN the 500,000th Bedford vehicle left the works at Luton in October, 1947, 16 years after production of Vauxhall commercial vehicles commenced, only conjecture could have forecast a date for the manufacture of the millionth unit. That only 11 years elapsed before this milestone in the company's history could be celebrated is of course due largely to the fine reputation gained by the marque at home and abroad. Of the first million, 360,000 have been exported and almost exactly a quarter of the 27 years' output has been delivered to the Government. Of all Bedford commercial vehicles made so far this year, 65 per cent were for overseas markets. Last week we were at Dunstable when Mr. W. J. Taylor, Parliamentary Secretary to the Ministry of Supply, drove the history-making millionth Bedford off the assembly line at the new factory, and later saw the lorry body lowered and mounted to the diesel-engined 7-ton chassis. (Specially finished in red and white, the vehicle is now making a widespread tour of Bedford dealers.) To round off this pleasant occasion, Vauxhall Motors, Limited, provided the opportunity to make a lightning visit to the new parts and accessories building which has now come into full use after the remarkably short overall construction time of 13 months. Replacing a smaller warehouse at Luton and a number of subsidiary storage points in various parts of the country, the new building was erected at a cost of £3 million. Among many interesting features of the building are the full utilisation of the interior height of 21 ft. by means of two-tier fixed bins—the upper ones supplied by lifts—and the considerable use made of mechanical handling aids and stacking containers. The nine acres of roof space are designed to serve as a vehicle storage area reached from the adjacent assembly lines by a suspended ramp. The warehouse contains some 30,000 different stock items. Approximately 170 tons of parts are dispatched every day from the building, which is one of the last major projects in the Vauxhall Motors £36 million expansion programme.

The Best Minor Roads

SPEECHES at the annual luncheon of the Federation of Coated Macadam Industries on May 30 were not made in a very serious vein. Mr. P. A. Valton, vice-chairman of the federation, started the fashion in proposing "The Guests" and Sir John Maud, Permanent Secretary, Ministry of Power, maintained it in his inimitable way. His departure to South Africa will be a sad loss to the ranks of brilliant post-prandial speakers. The Joint Parliamentary Secretary, Ministry of Transport, Mr. G. R. H. Nugent, who proposed "The Federation," was also in good form. He took the opportunity to wonder what would have happened to the Roman roads if their builders had had any knowledge of tar and bitumen. Their roads had, of course, been built largely for military purposes whereas the task now was to make new roads for industrial and sociological purposes. In that regard there was still much to learn. The importance of adequate roads was appreciated and the Minister could claim to be the first one who had not in a crisis had his programme cut. There was one thing that he would emphasise and that was, whatever the shortcomings of the main roads, Britain had the best minor roads of any country in the world. He congratulated Mr. A. J. Lyddon, the retiring director of the federation, upon the work he had done during the past 13 years in establishing it so soundly and similar praise was voiced by Mr. B. W. Tawse, the chairman, when he replied to the toast.

International Standards

FLYING over the Royal Hall, Harrogate, from June 9 to 21 will be the flags of the 40 member nations of the International Organisation for Standardisation, which will be holding its 1958 assembly there during that period. The conference, which is held triennially, and next week for the first time in Britain, is to be opened by the president of I.S.O., Sir Roger Duncalfe. Arrangements are in the hands of the British Standards Institution; a record attendance of some 1,000 delegates representing every one of the 40 member countries is expected. As well as the meetings of the full assembly, the I.S.O. Council and of 15 technical committees, a very full business programme includes visits to factories and industrial establishments in the area. Among the international standards to be discussed by technical committees are those on nuclear energy, screw threads, transport pallets, various metals and machine tools. It is understandable that the ready worldwide co-operation that has characterised I.S.O. proceedings since it was formed at the end of the last war, which brings together the nations of East and West, should override political divisions, for agreed international standards offer significant mutual benefits, not only through unification of standards for materials and manufactured articles but also in simplifying packaging, transport and servicing.

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MODERN TRANSPORT

Published Every Friday
RUSSELL COURT, 8-16 WOBURN PLACE, LONDON, W.C.1
Telephone Number: TERminus 0303 (3 lines)
Telegraphic Address: Transpubco, Westcent, London

ANNUAL SUBSCRIPTIONS
BRITISH ISLES, 35/-; CANADA, 32/6;
ELSEWHERE ABROAD, 35/-
payable in advance and postage free

The Editor is prepared to consider contributions offered for publication in MODERN TRANSPORT, but intending contributors should first study the length and style of articles appearing in the paper and satisfy themselves that the topic with which they propose to deal is relevant to editorial requirements. In controversial subjects relating to all aspects of transport and traffic this newspaper offers a platform for independent comment and debate, its object being to encourage the provision of all forms of transport in the best interests of the community.

Towards Co-ordination of Transport

AN early enunciator of the theory that each agency of transport should be encouraged to perform the work it is most fitted to do was Sir Eric Geddes, the first Minister of Transport and primus-president of the Institute of Transport; to him Sir Brian Robertson, chairman of the British Transport Commission and himself a vice-president of the Institute, paid tribute at its congress in Dublin this week in a paper on transport organisation summarised on the opposite page. Expressing himself as "a staunch and sincere admirer of Geddes" he said he regarded him as a great man. Nevertheless he confessed that as a junior officer in the 1914-18 war he gained the impression that the organisation which Geddes introduced on the Western Front was rather cumbersome and over-centralised, and it is not surprising that he was careful to avoid these shortcomings when in due course he reorganised the undertaking of which he is now the head. Geddes at the time came in for a good deal of criticism, and Sir Brian admits that he "joined in the fun at the expense of the Geddes generals whose brass hats shone with conspicuous newness in the back areas," adding that some extravagance of method was no doubt unavoidable, that the job was done and that it was an essential factor in the final victory. Geddes was certainly outstanding; he was one of several brilliant men who were attracted to the North Eastern Railway under Sir George Gibb's enlightened management. His capabilities as a railway officer resulted in his being chosen for high wartime office, and he had already distinguished himself at the Admiralty when he was persuaded by Mr. Lloyd George to undertake the urgent task of attuning the army's wartime transport system to full military needs. It is but fair to point out, however, that he had *carte blanche* with men and materials and that the resources for which others had previously been pressing were granted him in abundance.

Nationalisation versus Grouping

GEDDES was not alone in urging that the State should foster co-ordination; even before the 1914-18 war railway managers were getting tired of the tactics of Parliament in encouraging competition and thwarting efforts at amalgamation, as witness the unsuccessful proposals at the turn of the century for unifying the three "Greats"—Northern, Central and Eastern. After the war the railway companies felt justified in resisting nationalisation but, as events proved, were not averse to a large measure of unification. Particularly they disliked the sort of nationalisation that Geddes envisaged, with direct control from a newly created Ministry of Transport. If they attacked Geddes it was not for his ideas on co-ordination but because he was loath to reduce the department he governed from the grandiose scale of nationalisation to the much simpler proportions befitting railway unification in four groups under private management. In building up his Ministry he was perhaps still suffering from a sort of megalomania which had persuaded him to over-centralise during the war. Be that as it may, his ideas were fundamentally sound, if a little in advance of the time. It is probable indeed that the country would have benefited from full unification of the railways in 1921 under a reasonable organisation such as that now existing. There is little doubt that vast savings would have accrued and that under enlightened administration freight traffic operation—and it is in this respect that the railways are suffering most today—would have been revolutionised before the advent of the 1939-45 war.

Transport Policy and the State

CO-ORDINATION with other means of transport would have been hastened by complete railway unification 37 years ago, but nevertheless, as Sir Brian Robertson pointed out, the trend in that direction was pursued by exhaustive inquiry resulting in valuable and comprehensive legislation between the wars. The ultimate aim was largely achieved by the Transport Act of 1947 but nullified to some extent by the Transport Act of 1953. "Look at it how you will," he said, "it must be true that in the organisation of the national economy in peace the transport system of the country must be considered as a whole." From the year 1919 successive Ministers of Transport, up to and including Lord Leathers, paid lip service to this dictum, to which there is, of course, a proviso: the author warned that the problem was not so much whether governments have a duty to produce a national policy of transport co-ordination as how far they should intervene to do so; "far enough to achieve a good result, and no farther," he emphasised. Of the various methods for promoting co-ordination he considered that licensing should be by a tribunal appointed by but independent of Government, and that if fares and charges must be controlled for any part of the public transport industry they should be controlled for all and be in the hands of the same tribunal as that responsible for licensing. He thinks it unfortunate that in this country there is no single tribunal presiding over the whole field of transport as does the Interstate Commerce Commission in the United States. Certainly the possibility of more cohesion on these lines is worth studying.

Co-ordination Under the B.T.C.

AS to the domestic arrangements of the British Transport Commission, its chairman said that efforts were being made to balance the operations of the various divisions under its control although he felt more could be done in this direction, as for instance in co-ordinating rail and provincial bus services and gearing more closely railway freight and road haulage. Stressing the importance and significance of the area boards, set up under the 1953 Act, he pointed out that they were instruments of co-ordination, for which reason they are not called regional, as with the railways. The boards, as described in the White Paper published in July, 1954, exercise general supervision within their areas, ensuring that the policies laid down by the Commission are faithfully executed and leaving responsibility for day-to-day management with the general managers and other officers. It is hoped that in due course they will become area transport boards, and with this end in view the Commission four years ago obtained powers enabling it, subject to the approval of the Minister of Transport, to delegate to them responsibilities additional to those relating to railways and shipping services. From all accounts the area boards are fulfilling the purposes for which they were created. The primary function of the Commission is to determine policy, and it was intended that the members of the boards, while not representing particular interests, should contribute a close knowledge of business and public requirements, produce new ideas and improve personal contact with the staff, thereby substantially assisting the Commission. Following Parliamentary approval of its railway reorganisation scheme the Commission in December, 1954, undertook a revision of its own headquarters organisation, thereby envisaging a compact staff machine, advisory rather than executive in character, with devolution of responsibility among a number of clear-cut divisions, corresponding to the various activities of the undertaking. The flexibility of this organisation has been proved by the further decentralisation of activities since carried out and fresh changes now contemplated.

Forthcoming Events

June 7-12.—Permanent Way Institution. Summer Convention. At Weston-super-Mare.

June 7.—Railway Club. Tour of lines in West Midlands with special train of goods brake-vans over branch to Shipston-on-Stour.

June 14.—Permanent Way Institution (Leeds and Bradford). Visit to Hull Docks.

June 15.—Permanent Way Institution. Visit to new Tunnel works, Greenwood-Potters Bar (E.R.).

June 15.—Omnibus Society. Study Tour of Doncaster area independents. Meet Wakefield Bus Station. 1.15 p.m.

June 20.—Permanent Way Institution. Visit to new Tunnel works, Greenwood-Potters Bar (E.R.).
Institute of Navigation. Discussion, "The Significance of Blunders in Navigation." At Royal Geographical Society, 1 Kensington Gore, S.W.7. 5.15 p.m.

June 21-29.—Omnibus Society. Round Britain Tour.

June 22.—Omnibus Society. Visit to South Wales Area.

June 30-July 4.—Institution of Naval Architects. Meeting in Paris.

September 1-7.—Society of British Aircraft Constructors. Flying display and exhibition. At Farnborough. (Public days September 5, 6 and 7.)

September 26-October 4.—Commercial Motor Transport Exhibition. At Earls Court.

September 28-October 7.—International Railway Congress. At Madrid.

November 5-16.—International Motor Show. At Turin.

THE ORGANISATION OF TRANSPORT

Some Examples and Conclusions

*By Sir BRIAN ROBERTSON, Bart., Chairman, British Transport Commission**

MANY men have devoted themselves to a study of the service of transport. The first president of this Institute stood out as being both a practical transport man and, at the same time, as a thinker who on the theoretical side propounded certain fundamental principles that have stood the test of subsequent experience. Sir Eric Geddes was a great man. (In parenthesis he was the first man to offer me a job in industry which I should of course claim to be a tribute to his vision.) He was a railwayman, but, in 1916, war, that powerful stimulant to thought and invention, suddenly thrust new and wider responsibilities upon him. The communications of the armies in France under Sir Douglas Haig had got into a considerable mess, and Sir Eric was appointed by Mr. Lloyd George to reduce them to order.

In the "khaki election" in December, 1918, Mr. Lloyd George's programme included "the development and control . . . of the railways, and the means of communication," and after the election Geddes was appointed to organise the new Ministry of Transport to carry out this policy. A year later, as we all know, he became primus-president of this Institute. His presidential address has become a classic of transport documentation. It revealed his philosophy in many aspects of transport organisation and showed very clearly the influence of his war experience.

I have spoken at this length about Sir Eric Geddes and the evolution of his philosophy, not just because he was a man whom I admired, but also because his philosophy was the product of practical experience, in war and peace. Politics had entered very little into his thinking. It was, I believe, a severe shock to him to find himself bitterly attacked as Minister of Transport by many of his old friends. He withdrew from public life two years later, having no real zest for politics.

The reason why Geddes was attacked was that his principle of co-ordination by the State seemed to lead too easily in the direction of ownership by the State, although so far as I know he had no such intention. This same reason makes it difficult today to discuss that principle without being accused of dabbling in politics. I should like, therefore, to make it abundantly clear that I am attempting in this paper to discuss the principles of the organisation of transport objectively and nobody is entitled to impute to my remarks a political bias which they have not got.

Control in War and Peace

Governments have to exercise a tighter control upon the life of the country during a war. No one would expect or wish that the onerous and far-reaching controls exercised by the Ministry of War Transport should continue in peace and they did not do so. On the other hand, wars do force recognition of many sound principles, economic and otherwise, principles which have not received recognition in peace because in some way they have been regarded as unpalatable. If a principle proves sound for the organisation of our economy in war, there is a prima facie case for examining its validity in the organisation of our economy in peace.

It may be true that there are many types of control which in peacetime we are not willing to accept. It is no doubt true that competition between the providers of transport is a powerful element in peace but not in war. On the other hand, waste of transport resources, which is quite inadmissible in war, is surely not tolerable beyond a certain point in peace. The correct apportionment of investment capital assumes even more importance. Look at it how you will, it must be true that in the organisation of the national economy in peace, the transport system of the country should be considered as a whole.

Co-ordination by the State

If the principle of co-ordination of transport by the State is a true principle then we should expect to find it in evidence in all well-developed countries, and indeed we do. The means adopted are various and variously effective. One of the least satisfactory of these means is control of fares and charges. The primary purpose of such control is to protect the user and to ensure that the transport operator does not take advantage of his position to exploit the public. It can only be justified when the transport operator has been assured of a position of monopoly or semi-monopoly by licences or similar means of protection.

In the U.S.A. the Interstate Commerce Commission exercises a very effective control over fares and charges by road and rail but to an outside observer its control does not always work to the benefit of the transport user. On the other hand the Commission's licences to road hauliers do not limit the number of vehicles they may operate, and no restrictions are placed on private carriers. It seems to me that the scales are weighted against the railroads and I am not surprised that many of them are in difficulties. These are so acute that various proposals are now being examined with a view to giving the railroads a fairer deal in the interests of overall efficiency in the transport industry.

France

In France a Supreme Transport Council was set up in 1947 to advise the Government on the co-ordination of transport. Separate committees were set up to deal with the co-ordination of rail and road, rail and canal, rail and air. The avowed principle on which the Council is said to operate is to promote the utilisation of the means of transport entailing the lowest true economic cost. This is, of course, an impeccable principle, but it is an elusive one.

Speaking again as an outside observer I should say that France has been tolerably successful in co-ordinating the means of transport so as to make the best of her national assets, but she has done it by means of a substantial subsidy to the railways rather than through her licensing system, which does not restrict the private carrier. In revenge the Government imposes its will upon the French railways both in the matter of charges and of costs (wages), so that the fine principle of "true economic cost" seems to have been relegated to a back place. It is at least arguable that the French railways could pay if they enjoyed more freedom.

On the other hand, investigation might well establish that other forms of transport in France, though subject to less governmental control, are even more heavily subsidised than the railways, although in a less obvious and direct manner. Do the road services, for example, pay fully for the real cost of the roads which they use? That is a point which is apt sometimes to be overlooked.

Western Germany

A very interesting case is that of Western Germany, a country which had been provided by Hitler with a system of magnificent autobahnen, supplemented by a network of good (though not first-class) main roads. While the country was under allied administration nothing was done to give it a real transport policy; the system of division into zones of occupation alone hampered any such development. In the early years of the German Government there were no doubt many other urgent matters to be dealt with. About four to five years ago the Government suddenly realised that three very undesirable developments had occurred.

In the first place the railways were losing traffic too rapidly to the roads; secondly, the road accident rate had become appallingly high; thirdly, the roads, including the autobahnen, were breaking up under the load. Drastic legislation was passed by the Federal Government to deal with this situation. The licensing of road haulage concerns was severely restricted. Road transport rates were made to conform to railway rates. The movement of heavy road vehicles on Sundays was prohibited. It is worthy of note that these measures were passed by a definitely "right-wing" Government whose general economic policy has, from the very first, been one of deliberate laissez-faire and freedom from controls.

United Kingdom

In the United Kingdom, as is generally known, the Government in 1947 passed a Transport Act which prescribed the solution for the whole problem on the basis of the integration of the means of transport under a single and national ownership. In 1953 another Government fundamentally amended that legislation and deliberately dropped the principle of the integration of transport. The basic principle of the Act of 1953 was that of competition on the grounds that co-ordination is best left to work itself out through competitive processes. In order to allow these processes to operate more fairly, greater freedom was given to the railways, particularly as regards charges. They were not, however, given complete freedom in this respect, although the road haulier does enjoy precisely this.

The competitive principle was not, in any case, pushed to extremes. A system of licences remained both for road passenger vehicles and for road haulage and I suspect that without this licensing system many road hauliers and omnibus companies would very quickly go out of business. Incidentally, the public would suffer great inconvenience and hardship. Municipal transport in London and other large towns remained a monopoly. Licensing arrangements also of course apply to air transport. Coastal shipping has received a measure of special protection.

Over and above the paraphernalia of controls on fares and charges and licences on operation, the Government also exercises a form of control which is particularly important in relation to the co-ordination of the means of transport. I mean by this its control on budgetary expenditure. Because it provides capital investment moneys to the British Transport Commission the Government directly controls new investment in British Railways, as well as for the other transport organisations under the Commission's control. Equally, the Government in large measure controls new investment in the road system and indeed the Minister of Transport and Civil Aviation is personally responsible for the Class I roads.

B.T.C. as a Co-ordinator

The very fact of establishing, as Parliament in the United Kingdom has done, a Transport Commission provides an important instrument of co-ordination in the transport industry. Our Commission does do a great deal of co-ordinating work. It endeavours to balance the operations of the various divisions under its control and particularly to co-ordinate rail and road operations. It seeks to do this not by subordinating the interests of one means of transport to that of another but by ensuring that all means at its disposal are exploited so that they give the best service both individually and in combination.

Competition in the field is encouraged, just as is competition between the railway regions, but care is taken to ensure that the various divisions do not compete with each other at the expense of the Commission. I am bound to say that the Commission might do more in the matter of the co-ordination of its resources than it does at present. I am bound to admit for example that our rail passenger services and provincial omnibus services are not as well co-ordinated as they should be. I must also confess that our railway freight services and our road haulage services should be geared into each other much more closely than they are at this time.

There are some obstacles, which I need not describe at this moment, that have prevented the better co-ordination of these two means for carrying freight traffic. I believe that these obstacles are less significant today and might be overcome. We are already endeavouring to ensure that when traffic depots, either rail or road, are being resited or reorganised care shall be taken to ensure that they are designed to handle both rail and road traffic. We also hope to eliminate the extravagance of having separate collections of parcels and smalls on behalf of our rail and road services respectively. Indeed there is very great scope for better co-ordination within our organisation in this way and substantial benefits could result not merely to the

(*Continued on page 9*)

* Abstract of a paper presented on his behalf to the Dublin Congress of the Institute of Transport, June 5.

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LORRY—BUS—COACH

B.R.S. Acquires Container Services

IT was announced on Tuesday this week that British Road Services has secured a controlling interest in Anglo-Continental Container Services (London), Limited, and Anglo-Continental Container Services (Belfast), Limited, which operate container services via the Preston—Larne and Ardrossan—Larne routes, using its own chartered container ships. It was exclusively reported in MODERN TRANSPORT of March 1 that B.R.S. had acquired the business of Ferry Trailers, Limited, which operates trailer services over the Preston—Larne ferry. It is understood that there will be no changes in the present directors of A.C.C.S., nor in its haulage arrangements. Some 400 containers are involved.

International Haulage Principles

RECOMMENDATIONS for a joint road transport policy within the European Economic Community and the future Free Trade Area have been adopted by the sixth congress of the International Road Transport Union (I.R.U.). Among the most important of these recommendations were:

(1) Tax revenues from road transport business are exclusively to be used for repairing and extending the international network of roads.
(2) Professional road transport vehicles are to be included in the recent customs alleviations for private vehicles (abolition of the carnet, triptych, etc.).
(3) The minimum measures and weights for road transport vehicles, as set up in the 1949 Geneva Convention, should not be curtailed. The maximum axle loading weight for vehicles has to be generally increased from 8 to 10 metric tons (approximately 9 tons 17 cwt.).

Routes at Turning Points

WHILE the turning arrangements for empty vehicles beyond the terminus of a bus service are not a matter to be prescribed as part of the licensed route of that service, it is within the powers of the traffic commissioners, in the exercise of their discretion, to attach conditions to the licence for securing the safety and convenience of the public, to consider (and if they think fit attach a condition with regard to) the routeing of buses between setting down at a terminus and reloading. This decision of the Minister of Transport arises out of an appeal to him by Paisley Town Council against conditions attached to services of Paton Brothers, Limited, and Cunningham's Bus Services, Limited, terminating in Paisley from Renfrew Ferry.

Ceylon Bus Loan Needed

THE Ceylon Transport Board seeks a loan of RS.48 million from the Government for capital expenditure during the next four years. Mr. Vere de Mel, chairman of the Transport Board, told the Prime Minister, Mr. S. W. R. D. Bandaranaike, that the Board had decided to set apart Rs.12 million annually as a depreciation reserve for replacement of buses. But this amount would now be appropriated for the payment of further wage increases to the staff from August, which would amount approximately to Rs.1 million a month. It is necessary to purchase about 300 buses annually to replace the old ones that would have to be scrapped.

Woodmansterne Expects the Bus

A THIRD independent bus operator appears likely on the perimeter of the London Transport Central area. Banstead Coaches proposes a daily route between Chipstead Valley Road (terminus of L.T. bus routes 166 and 59) and Banstead Station, via Rectory Lane, Woodmansterne Village, Woodmansterne Lane and Banstead High Street. Off-peak weekdays the route would run only to Banstead (The Victoria). Frequency would be 30 min. at peak hours, generally 40-60 min outside. Vehicles up to 30 ft. by 8 ft. are sought; at "peak traffic periods," including Epsom race days, up to seven vehicles are somewhat optimistically proposed. Epsom Downs are about 2½ miles from Banstead Station, although this station is on the appropriate railway branch. Through fare on the proposed bus route is 9d.

Rutland rear-engined coach (four-cylinder Meadows diesel with B.S.A. turbocharger) with Whitson body operated by Acorn Motors, Hanworth; right, a dual-purpose 41-seat Bristol bus-coach of Lincolnshire Road Car Co., Limited

B.R.S. Amends Normal User

AFTER discussions with representatives of two objecting hauliers, counsel for B.R.S. amended the normal user in an application by the Montrose branch for an A-licence in respect of two vehicles totalling 14¾ tons and it was approved by Mr. A. Robertson, the deputy Scottish area Licensing Authority, at a sitting in Aberdeen on May 30. Originally normal user sought was "general goods, Great Britain," but the area was amended to read "anywhere in Scotland, with occasional runs to England," after the adjournment.

Offered Free Buses for London

EARLY this week the People's League for the Defence of Freedom, a privately sponsored organisation which has been running an elderly A.E.C. Regent double-deck bus on Central London streets offering free rides during the strike, announced that it intended to acquire about 50 more double-deckers from dealers and would put them on the streets, some in Central London, but most in the suburban areas not tapped by the Underground. The organisers earlier showed some appreciation of where the needs are greatest from time to time, operating along Oxford Street on Saturday last (the first day), then between hospitals in the Westminster and Millbank area on Sunday afternoon and from Monday morning onwards on a circular route embracing Waterloo, London Bridge, Bank and Aldwych. One of the problems was likely to be fuel supply. A few independent operators have been authorised to operate stage services, notably between Hyde Park Corner and Gunnersbury Corner, East Croydon and Shirley, Chessington and Richmond, Harrow and London Airport, and between Harlow Station and Potter Street and Hare Street, but only one or two vehicles were involved. Until the P.V.O.A. organised emergency arrangements, certain independent coach owners running substituted public or works services had their fuel supplies withdrawn at the instigation of fuel tanker crews.

Nuisance of Convoy Driving

STATING that there was no justification for a national campaign on the subject, the Minister of Transport has turned down a proposal by Oxfordshire standing joint committee that there should be high-level discussions on traffic dangers caused by heavy goods vehicles and coaches travelling in convoy. Heavy goods drivers and coach drivers, says the Minister, are in the main "among the most highly skilled professional drivers on the roads." But he offered to reconsider a more limited approach to individual firms if provided with specific information about vehicles belonging to particular firms which tended to bunch and formed dangerous convoys. The committee regards this answer as unsatisfactory.

Kent Education Committee Stirred

KENT education authorities, says a correspondent, are not disposed to accept the role of scapegoats over the matter of the Ashford to Westwell bus service, which was discontinued in March by Maidstone and District Motor Services, Limited, in consequence of heavy running losses. As reported in MODERN TRANSPORT last week a Westwell coach proprietor, to whom the education authorities had awarded a contract to carry school children from that village to Ashford, applied successfully to the South Eastern area Traffic Commissioners for permission to use the school bus to carry passengers as well. Mr. E. Tong, chairman of the school welfare committee of Ashford Education Executive, said subsequently that if Maidstone and District made an approach, as suggested at the public inquiry before the Commissioners, the committee would consider it. He thought the committee should stand by the present arrangements. Mr. A. B. Long, chairman of the education executive, said he was disturbed that the Traffic Commissioners should blame his committee, which had done all it could before the public service was taken off.

What Price Smithfield?

SINCE the strike of London meat haulage drivers began seven weeks ago, and despite its subsequent extension to Smithfield, retail butchers had, at some expense to themselves, been able to make their own transport arrangements without much trouble, said Mr. R. Covell, president of the National Federation of Meat Traders Associations, at Guildford this week. When Smithfield closed down the co-operation between wholesalers, who began to work from country depots and other addresses, and retailers, "who manfully roamed the countryside with their vans and other vehicles," was sufficient to keep supplies going. Arrangements to by-pass Smithfield were still functioning well, confirmed Mr. S. E. Ostler, of the London Retail Meat Traders Association, and there was no immediate concern. The strike began on April 19 and concerns a wage claim arising out of the 30 m.p.h. speed limit for heavy vehicles.

Unco-operative Camp Operators

TWO further appeals to the Minister of Transport concerning leave services from the Salisbury Plain area have been decided. In the first, the Minister has authorised to Mr. S. C. Shergold a backing for a road service licence in respect of an express service between Bulford Camp and Glasgow, thus reversing the decision of the South Eastern area Traffic Commissioners. His action is to "facilitate the pooling of the resources of operators to meet the requirements for transport." The Minister trusts that the operators concerned will not overlook the importance in the public interest of operating the services licensed to the best advantage of the service men for whom they are provided. In a second decision concerning picking-up points in the camp area the Minister notes references during the appeal inquiry to "lack of co-operation between some operators" engaged in the provision of camp services from Salisbury Plain and repeats the observation referred to above.

Bus and Coach Developments

Southern National Omnibus Co., Limited, is seeking the removal of certain picking-up and setting-down restrictions between Organford and Dorchester on journeys on its Weymouth—Bournemouth service operated jointly with Hants and Dorset Motor Services, Limited. The restrictions resulted from representations by Bere Regis and District Motor Services, which also serves the road concerned.

Ribble Motor Services, Limited, Scout Motor Services, Limited, and Burnley, Colne and Nelson Joint Transport Committee propose a new service between Burnley and Lytham via Blackburn and Preston. All three would work jointly between Burnley and Blackburn and Ribble and Scout thence to Lytham.

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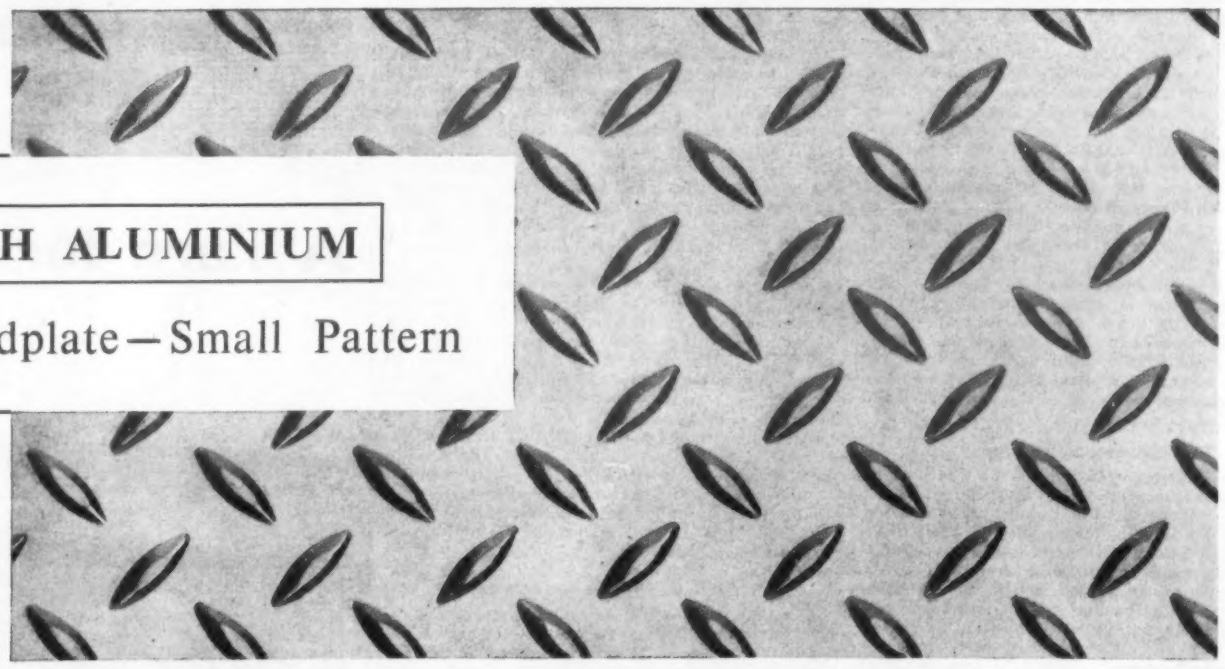

BA Positive-Grip-Pattern (P-G-P) Treadplate is now available in this small, neat design, shown full size above. It has been added to the Company's range of Treadplates and is particularly suitable for use on kickplates, bulkheads and flooring in passenger transport vehicles where a light small-scale pattern is required. It does not hold dirt, and is as easy to clean as the larger P-G-P pattern. Full particulars, including recommended thicknesses to cover many applications, are given in Publication L.36, which will be sent on request with a sample.

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DIESEL TRACTION

The Changeover on Irish Railways

By T. C. COURTNEY, M.E., M.I.C.E.I., M.I.C.E., M.Inst.T.,
*Chairman, Coras Iompair Eireann**

IN 1950 the locomotive stock of Coras Iompair Eireann consisted of 347 steam tender locomotives, 104 steam tank locomotives and five diesel-electric shunting locomotives. The average age of the steam locomotives was over 50 years. Many had been long overdue for replacement but shortages of materials from the beginning of the war had prevented this, and had resulted in the locomotives being in a poor state of repair. Shortage of coal in the postwar period led to the conversion of a number of locomotives from coal to oil burning. This interrupted maintenance with the result that 28 per cent of the stock was under or awaiting repair in 1950. The provision of new motive power was, therefore, one of the most pressing problems facing the board of Coras Iompair Eireann at that time.

The first issue to be investigated was whether new locomotives should be steam or diesel. Electrification would be uneconomic because of the low density of traffic.

Advantages of Diesels

The board's investigation into the advantages which diesel motive power would offer on its railway system showed (*a*) an annual economy of £920,000 in fuel as compared with current cost of coal; (*b*) a smaller number of power units than would be necessary in the case of steam, leading to consequential savings in operating and maintenance costs, and (*c*) elimination of the cost of coal and ash handling and other economies of a like nature.

A scheme for the acquisition of diesel motive power for the whole of the scheduled services of the undertaking, and for the construction of the ancillary new works which would be necessary, was approved by the Government and the necessary capital expenditure by the board was authorised. The board adopted the principle that sufficient diesel locomotives should be provided to haul the goods services which on the C.I.E. system operate mainly at night, and that these locomotives would be utilised during the day to haul passenger trains. Any additional motive power necessary for passenger services would be met by the provision of diesel railcars.

From consideration of the working timetable, the size of train required for each service, the scheduled running times, and the gradient sheets, it was found that three types of locomotive would be needed, viz: Type 1, locomotives of 1,100-1,400 h.p. for main-line passenger and freight services; type 2, locomotives of 550-700 h.p. for passenger and freight services on secondary and branch lines, and type 3, locomotives of 350 h.p. for shunting duties and light loads on branch lines.

Early Purchases of Diesel Locomotives

The first order by Coras Iompair Eireann for diesel locomotives was placed in 1945 with the Brush Electrical Engineering Co., Limited. It covered the supply of engines and electrical equipment for the five diesel-electric shunting locomotives of 487 h.p. The mechanical parts were designed and manufactured at the board's works in Inchicore where the locomotives were assembled. The design was based on an 0-6-0 wheel arrangement with outside coupling rods and with two motored axles. The locomotives went into traffic in 1947 and 1948. In 1946 orders were placed with Sulzer Bros., Limited, for 815-h.p. engines and with Metropolitan-Vickers Electrical Co., Limited, for the electrical equipment for main-line mixed traffic locomotives. Two of these locomotives were built at Inchicore Works. A summary of the various types of diesel locomotive acquired by Coras Iompair Eireann is given in the table.

Railcars

In September, 1950, an order for 20 railcars was placed with A.E.C., Limited. The order was extended to 60 cars in June, 1951, and engines and transmissions for six more which would be built at Inchicore Works were ordered in August, 1954. Thus the total number of broad-gauge railcars acquired was 66. The average cost of the cars was £18,500 each.

These railcars which had a maximum speed of 75 m.p.h. enabled running times to be considerably reduced in spite of the low horsepower-weight ratio of 3.5 h.p. per ton. Fast operating schedules were possible; e.g. the scheduled running time for the non-stop run between Dublin and Cork, a distance of 165 miles, was three hours. In 1951 orders were placed with Walker Bros., Limited, for power bogies and cabs for four railcars for use on narrow-gauge lines. These cars were built at Inchicore and were put into service in 1952.

Main Fleet of Locomotives

In 1953 tenders were invited for the supply of the main fleet of diesel locomotives consisting of three types which, with the numbers subsequently purchased, are shown hereunder:

Type	*h.p.*	*Max. speed*	*Number*
1 ..	1,100-1,400 ..	75 m.p.h. ..	60
2 ..	550-700 ..	75 m.p.h. ..	34
3 ..	250-350 ..	40 m.p.h. ..	19

The specification for these locomotives covered only general requirements, such as axle loading, load gauge, and service conditions so as to enable manufacturers to quote for standard designs. Discretion was given to manufacturers to quote for hydraulic or electric transmisson. Maximum axle load was limited to 14½ tons so that the new locomotives could work anywhere on the C.I.E. system. The maximum axle load of steam locomotives had been 20 tons and restrictions on the use of these and other locomotive types had led to undesirable complications in railway operation. The lighter axle load of diesel locomotives would permit the use of lighter rails in the course of renewals in many parts of the system and would add to the economies to be gained.

Tenders

It had been decided not to order prototype locomotives. They would take not less than two years to obtain and a further two years for testing. The savings in running costs of more than £1 million per annum from the dieselisation scheme would be lost during these years. The amount would be so great that there would be no justification for the delay which the manufacture and testing of prototypes would cause.

Examination of the tenders and clarification of technical details with the various contractors occupied six months. The contract was awarded to Metropolitan-Vickers Electrical Co., Limited, for the supply of 60 diesel-electric Co-Co locomotives of 1,200 h.p. and 34 diesel-electric Bo-Bo locomotives of 550 h.p. at the cost of £4¼ million approximately. No tender was accepted for the supply of locomotives Type 3.

Other Locomotives

Having considered the tenders received for the supply of locomotives of 250-350 h.p., and taking account of the building capacity of the Inchicore Works, the board decided to purchase engines and transmission gear and to manufacture the locomotives in its own shops. After inquiries of the trade, the tender of Maybach Motorenbau-G.m.b.H. for the supply of 400-h.p. supercharged diesel engines with Mekydro transmission for 19 diesel-hydraulic locomotives was accepted in November, 1954. In 1952 a contract was placed with the Birmingham Railway Carriage and Wagon Co., Limited, for the manufacture of 12 AIA-AIA locomotives of 960 h.p. using Sulzer engines and electrical transmission equipment supplied by Metropolitan-Vickers.

In September, 1953, an order was placed with Walker Bros., Limited, for the supply of three diesel-mechanical narrow-gauge locomotives of 212 h.p. each. Three small diesel-hydraulic locomotives of 130 h.p. for branch line work were purchased from the Klöckner-Humboldt-Deutz A.G., Cologne.

Maintenance and Overhaul

Once the main contract for the supply of diesel locomotives had been placed it became necessary to proceed with the construction of suitable facilities for the maintenance and overhaul of the new kind of motive power. The locomotive workings for C.I.E. had been planned on an "all system basis" and this permitted a high proportion of scheduled inspection and running maintenance being carried out at the central sheds and workshops at Inchicore.

A workshop which had been used for boiler and tender repairs was completely remodelled at the cost of £64,000. Four servicing and inspection bays for locomotives were provided and three work levels were incorporated. Special facilities for the maintenance and servicing of diesel railcars were also constructed at Inchicore. Reconstruction schemes were carried out in four other centres for the establishment of maintenance depots for railcars and locomotives. Each of these depots carries a stock of spare parts and replacement units. The maintenance of diesel stock is now concentrated in five depots as compared with 38 used previously for the preparation and maintenance of steam locomotives.

The erecting shop at Inchicore which had been used for the repair of steam locomotives was altered and facilities were provided for heavy examination of diesel locomotives and for the overhaul of engines and electrical equipment. The repair of railcars is also undertaken at Inchicore. Engines, gearboxes and transmission equipment are dealt with on a unit replacement basis by reconditioned units supplied by a workshop engaged solely on engine and gearbox repairs. Wheel turning and the running and brake gear on the bogies are attended to at the same time as the power units and this is followed by repairs to the coachwork and painting.

The storage and distribution of fuel oil has been met by the provision of main storage tanks of 500 tons capacity at both Cork and Dublin. Connections are provided at Cork to the quayside so that delivery can be taken direct from seagoing tankers. Twenty rail tank cars were built at Inchicore to distribute fuel oil to small storage tanks provided at various refuelling depots throughout the system.

Train Heating

Several schemes were considered for the heating of diesel-hauled passenger coaches but as the stock was already piped and fitted for steam heating it was decided to retain this form of heating. It was felt, however, that steam generators on the locomotives were an undesirable complication and it was decided to build four-wheel trailer vans fitted with automatic oil-fired boilers for train heating. Forty-one combined luggage and heating vans equipped with boilers of 1,000 lb. per hour capacity were built at Inchicore. Similar boilers of half this capacity were incorporated in the railcars.

One important aspect of the change to diesel traction was the necessity for purchasing and storing a large variety of spares and replacement units of proprietary manufacture. This break with the traditions whereby the railway workshops manufactured most of the spares required for steam called for re-assessment of the procedure for providing and storing spare parts.

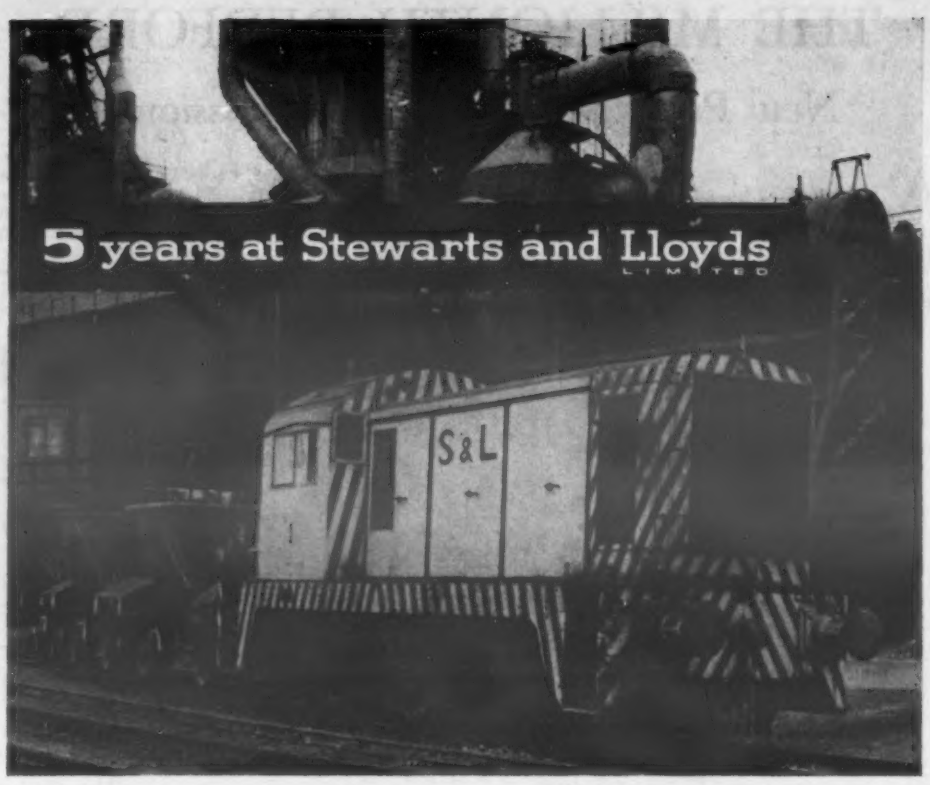
Attention was given at an early stage to the

(*Continued on page 11*)

TABLE
PRESENT FLEET OF DIESEL LOCOMOTIVES OF CORAS IOMPAIR EIREANN

	Diesel-electric					*Diesel-mech.*	*Diesel-hydraulic*	
Number	5	2	60	34	12	3	3	19
Power	487 h.p.	815 h.p.	1,200 h.p.	550 h.p.	960 h.p.	214 h.p.	110 h.p.	400 h.p.
Gauge	5 ft. 3 in.	5 ft. 3 in.	5 ft. 3 in.	5 ft. 3 in.	5 ft. 3 in.	3 ft.	5 ft. 3 in.	5 ft. 3 in.
Contractor	—	—	Metro-Vick.	Metro-Vick.	—	Walker	Deutz	—
Mechanical parts ..	C.I.E.	C.I.E.	Metro-Cammell	Metro-Cammell	B.R.C.W.	do.	do.	C.I.E.
Engine	Mirrlees	Sulzer	Crossley Bros.	Crossley Bros.	Sulzer	Gardner	do.	Maybach
Transmission ..	Brush	Metro-Vick.	Metro-Vick.	Metro-Vick.	Metro-Vick.	Walker	Voith	do.
Weight	52 tons	80 tons	85 tons	58 tons	72 tons	24 tons	18 tons	39 tons
Wheel arrangement ..	C	Bo-Bo	Co-Co	Bo-Bo	AIA-AIA	Bo-Bo	B	C
Engine	TLDT 6	6 LDA 28	HST Vee 8	EST Vee 8	6 LDA 28	6 L.W.	A8L-614	M.D. 220
Max. speed	25 m.p.h.	55 m.p.h.	75 m.p.h.	75 m.p.h.	75 m.p.h.	25 m.p.h.	24 m.p.h.	60 m.p.h.
Max. tractive effort ..	25,000 lb.	46,000 lb.	55,000 lb.	43,200 lb.	36,000 lb.	10,300 lb.	10,000 lb.	25,000 lb.
Cont. tractive effort ..	—	19,000 lb.	16,000 lb.	16,000 lb.	15,000 lb.	—	—	—

* Abstract of a paper presented to the Institute of Transport congress in Dublin on June 4.



Sixty-five per cent of all steelworks diesel locomotives, from 38 to 52 tons, at work in Great Britain, are powered by Paxman diesels.

At Stewarts and Lloyds Limited alone, sixteen Paxman engines have each given an annual average of 2,400 hours sterling service over the past five years.

The total hours in service of these locomotives are as follows:

6 locomotives at Bilston	126,300
6 locomotives at Corby	121,000
4 locomotives at Clydesdale Works, Mossend	28,666

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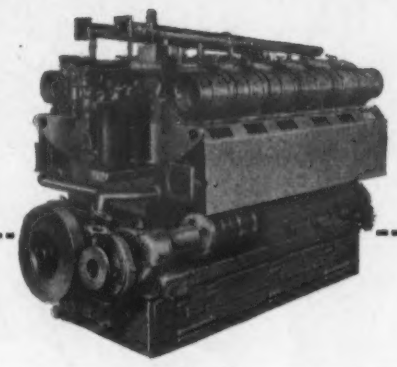

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The Type HA Machine is also available for use on 110 volts A.C. or 110 or 30 volts D.C. It can be supplied for special high speed operation of points in hump yards.

Another interesting application is the 'sequential operation' facility which may be used for C.T.C. or remote locations where power supplies are limited; it provides that where a point layout requiring two machines is used, they may be arranged to operate one after the other, thus limiting the current drain on a small capacity battery to one machine at a time.

With improvements and additions the fundamental design of this machine has been proved over nearly 50 years and Signal Engineers may continue to install the Type HA with every confidence.

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THE MILLIONTH BEDFORD

New Parts Depot Fully Commissioned

AS we record on page 1, a major milestone in the history of Vauxhall Motors, Limited, was reached when the millionth Bedford commercial vehicle was ceremonially driven from the assembly line at the company's new Dunstable factory by Mr. W. J. Taylor, Parliamentary Secretary to the Minister of Supply. The vehicle, a diesel-engined 7-ton chassis, is destined for further

The millionth Bedford—a diesel 7-tonner—coming off the line at Dunstable on May 28; the standard dropside body about to be mounted; a general view of the sheet metal storage area of the parts warehouse; and, extreme right, roller conveyor in the export packing section

ceremony, for it was immediately fitted with a dropside lorry body finished in special red and white livery in readiness for a comprehensive tour of Bedford dealers.

The event underlines the remarkable success achieved by this popular range since its introduction in 1931, when the first 2-ton chassis was completed at the Luton factory in February. This first model was joined by a 30-cwt. version and a 12-cwt. van in 1932, an 8-cwt. van in 1933 and a 3-ton lorry in 1934. Bus bodies, usually 14-seaters, were built on Bedford chassis right from the start (one of these early buses is still running in Bedfordshire) and p.s.v. operators were specifically catered for in a new 30-cwt. to 2-ton range introduced in 1935, which included a special chassis for bus bodywork. In 1938, a new six-cylinder engine was introduced as also was a small delivery van powered by a four-cylinder engine, and the first Bedford-Scammell 5-ton articulated lorry came in 1939.

Massive wartime production for the Ministry of Supply, both for the fighting services and special civilian requirements, contributed largely to the figure of 250,000 vehicles built for the Government in 27 years. The military four-wheel-drive QL lorry was introduced in 1943 and served the forces well. With the full Bedford range back in production in 1946, the half-millionth commercial vehicle to be produced came quickly, actually being driven off the assembly line by the Minister of Supply on October 22, 1947.

Coinciding with the completion at Luton of a new 19½-acre plant to accommodate commercial vehicle manufacturing operations, the new Big Bedford 7-tonner, extending the load capacity up to 10 tons with semi-trailer, was introduced in 1950. A new 10-12 cwt. van with sliding doors and semi-forward control was added in 1952 and a redesigned medium-capacity range was introduced in 1953, with the Perkins diesel engine offered as an alternative to the standard petrol unit for the first time.

Shortly after this, a vast expansion programme costing £36 million was announced by the company and one of the first major projects in this programme was the setting up of a new commercial vehicle manufacturing plant at Dunstable. The last Bedford built at Luton came off the line on July 15, 1955, and the first from the new line (No. 729,539) on the following August 2. A simple calculation shows that it has taken less than three years to produce nearly 300,000 Bedfords from the new plant. Many of these are now fitted with the Bedford four- and six-cylinder diesel engines, which were introduced last year, and their growing acceptance overseas is indicated by a steadily rising percentage of output exported. Of all Bedford vehicles produced so far this year, 65 per cent were for overseas markets, compared with the average figure of 36 per cent since 1931.

New Parts Department

Coinciding with the production of the millionth Bedford has been the bringing into full operation of a new parts and accessories department at Dunstable, one of the last of the major expansion projects. Planned to provide the highest possible standard of parts service for the complete range of Vauxhall Motors vehicles, it has been built at a cost of about £3 million and houses some 30,000 different items with a total value of over £8 million. It is located alongside that part of the Dunstable factory which manufactures spares for non-current Vauxhall and Bedford vehicles. Employing 520 people, it dispatches 170 tons of parts daily.

The warehouse measures 800 ft. by 570 ft. and full use is made of the unusual interior height of 21 ft. With the aid of two-tier fixed bins—the upper ones supplied by lifts—and special fork-lift trucks and stacking containers, every foot of this height is utilised in the storage areas. Another notable feature of the warehouse is the size of the receiving and dispatch bays, which are at opposite sides of the building, where 11 vehicles can be unloaded and 16 loaded at the same time. The nine acres of flat roof not occupied by a 70,000 sq. ft. office block is used as a 500-vehicle storage area by the commercial vehicle factory, to which it is connected by a suspended ramp.

Specially designed racks for cabs, van and car bodies and chassis frames are served by this rider-controlled gantry hoist

Storage Arrangements

How parts are stored depends on whether they are fast-moving or slow-moving items. Fixed bins are used only for slow-moving parts which spend a considerable time in stock. These bins extend upwards in two tiers and cover some 20,000 part numbers, including parts for all vehicles produced over the last 20 years—in many cases even longer. Fast-moving items, which account for 70 per cent of all parts sales, are stored in large steel-mesh containers designed to stack on top of each other up to the full height of the building. These containers, which replace fixed bins, are moved and stacked by special fork-lift trucks able to work in narrow gangways. This area is planned to contain 5,000 of these portable storage containers to store approximately 800 part numbers. Sheet-metal parts are also stored in stackable containers in a 100,000 sq. ft. space; over 4,000 major panels, especially wrapped for protection, are dispatched every day.

Every day the warehouse handles the stock orders for 12 of the 250 U.K. main dealers, whose monthly replenishment orders are received in a regular cycle and dispatched within six days of receipt. In addition, 4,000 items for supplementary orders and many thousands of export items are dispatched each day. Supplementary orders are dispatched within two days and emergency requests are met the same day.

Both receipt and dispatch areas have covered approaches and facilities for direct unloading and loading. Stock orders for U.K. main dealers are delivered by road vehicle and supplementary orders are sent either by rail parcel service or post. Export shipments go direct to the docks by road transport. Vauxhall Motors pays the cost of all deliveries to U.K. main dealers and, in the case of exports, to the port of loading.

The parts office, on the floor above, measures 125 ft. by 570 ft. and is divided into order interpretation, supply, correspondence, pricing, information and dealer contact main sections. The order interpretation section handles 10 cwt. of mail and 300 telephone requests every day. Orders are prepared by one of the largest punch card operations of its kind in the country, using 44 complex electrically operated I.B.M. machines to convert the original orders into documents that make selection from the warehouse swift and simple and prepare the invoices and so on at the same time. To control and speed up the movement of paper from one operation to the next, a pneumatic tube system, controlled from two main stations and

(*Continued on page 16*)

Taking the load off the driver

The C.A.V. Automatic Electrical Gear Change Equipment enables a driver to concentrate on his job—safe control of the vehicle. It relieves him of all gear-changing operations, which for a public service vehicle on a busy route may number 4,000 per day. Gear changes are effected strictly in accordance with road speed and engine torque, so that driving is by accelerator and brake only. It makes the driver's job easier and reduces wear and tear on the vehicle. Neutral is automatically selected as the vehicle slows to a stop, and reverse cannot be selected accidentally. An overriding control permits the manual selection of gears if and when required. This equipment is applicable to vehicles with direct-acting epicyclic gear-boxes, using either pneumatic or electro-hydraulic operation.

C.A.V. Automatic GEAR CHANGE Control Equipment

The World's Leading Manufacturers of

Fuel Injection and Electrical Equipment

C.A.V. LIMITED, ACTON, LONDON, W.3

C.A.V.

LARGEST DOUBLE-DECK BUS BODY ORDER

Park Royal Units for Teheran Omnibus Board

ON A.E.C. REGENT V CHASSIS

NOW in production in the factory of Park Royal Vehicles, Limited, are 250 double-deck buses for Teheran, the first consignment of which was handed over on May 27 at the A.E.C. Works, Southall, to a director of the Board, Mr. Esmail Rahimi Larijani, by Lord Brabazon of Tara. In preparing the body design, Park Royal drew on its experience of double-deck bodies overseas in such areas as India, Malaya, Ceylon, Central Africa, South Africa and Iraq, and knowledge of the conditions obtaining to establish the basic requirements. The quantity involved, and the body spares requirement of the Board necessitated the greatest interchangeability of parts, both from the erection and subsequent replacement point of view.

One of the first of 250 A.E.C. Mark V Regent buses with 73-seat Park Royal bodywork for Teheran Omnibus Board

Body Design

The body design is based on the well-tried Park Royal export structure modified where necessary in detail and dimensions, embodying a combination of alloy and steel members, stress panels and sections, and erected in two separate — lower and upper — halves. The resulting structure provides ample strength and the required life expectation for the more arduous service conditions anticipated. The maximum use is made during construction of jigs and fixtures, both in parts fabrication and erection, the quantity of bodies involved permitting a greater degree of tooling than is possible for smaller contracts, and line production methods are employed in the body assembly shop.

The lower saloon erection commences with the underframe and jig-built rear wheelboxes being mounted to chassis; to this are added the lower saloon side frames, front and rear bulkheads and rear end frame and stress panelling, each of these five units also assembled in jigs. The upper saloon is completely assembled, panelled, glazed and moulded on a moveable assembly frame and is made up of intermediate floor framing with one-piece ¼-in. resin-bonded ply floor, body sides, roof and front and rear ends, each unit again being assembled individually on jigs. The main connection between upper and lower half is effected at each pillar by deep cantilever type intermediate roofsticks riveted to the pillars resulting in a particularly robust joint. The final stage follows, where panelling, window pans, mouldings, etc., are applied to the lower saloon, the lower saloon floor, ceiling panels, staircase, etc., are fitted and the body passes to the paint shop.

Capacity

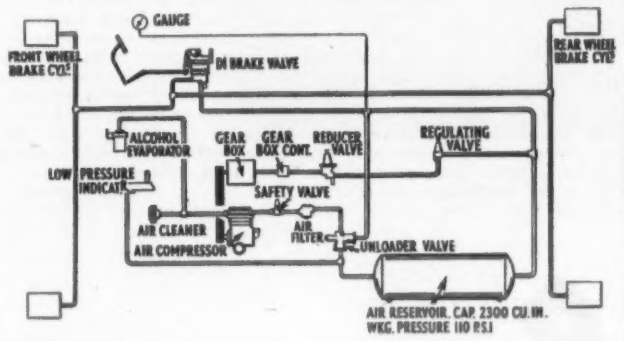
The 29 ft. long bodies seat 73 passengers, 32 in the lower and 41 in the upper saloon, with seating arranged in the lower saloon to allow the maximum standing space in the gangway, for which handgrips are provided on full length roof handpoles. Orthodox service type seats with latex foam cushions and padded squabs trimmed in leather are used, giving adequate comfort for the type of service operated.

All main side windows in both saloons have full depth, pan glazed, sliding units giving ample ventilation, assisted by hinged ventilators in the front end windows—two in the upper and one in the lower saloon—to promote a through flow of air. Louvres are embodied in the lower saloon vent panels, with grilles in the interior coves and permanent inlet vents are incorporated in the front end of both decks. Under the prevailing climatic conditions, these measures will ensure the maximum comfort, while the use of glass fibre insulation in the upper saloon roof mitigates the effect of direct sunlight on the outer panels.

A single front destination box is fitted, open reflector type lamp units provide the necessary interior illumination, with an orthodox night blind for the driver's rear window to prevent screen reflections. Other miscellaneous fittings are blister type flashing trafficators, staircase mirror, illuminated rear number plate, stop and tail lamps in the rear panelling, window guard rails over the main side windows, and polished chequered aluminium sheet facings to the front bulkhead and the upper saloon front end, both being waist high.

The exterior colour scheme of red and cream, with gold side crests and black wings and mouldings is most effective and the aluminium painted exterior roof sets off the main body colours—and incidentally is effective in reducing, by reflection, the heat transference to the interior. The interior scheme of dark and light green, off-white ceilings, and light-green seat trim achieves the requirement of a cool restful inside appearance and black plastic covered handpoles, stanchions and guardrails balance the colour scheme.

The A.E.C. Regent Mark V chassis includes a heavy-duty frame with wheelbase of 17 ft. 6 in. and overall width of 8 ft. incorporating the well-known A.E.C. 11.3-litre direct-injection diesel engine which develops 150 b.h.p. at 1,800 r.p.m. To meet the arduous conditions existing in Iran a special tropical air cleaner, external engine oil filter and fuel filter are fitted. Monocontrol transmission incorporating fluid flywheel and an electro-pneumatic four-speed epicyclic gearbox with finger-tip selection is provided.



Layout of the air-pressure equipment on the Mark V Regent

Suspension incorporates 4 in. wide springs to front and rear axles with stabilising gear to prevent body reach and improve riding quality. An offset underslung 8½-in. centre worm drive rear axle is incorporated on this chassis.

A semi-full front pressed steel front end structure of modern design enclosing a radiator and incorporating flush fitted headlamps is fitted. Front and rear bumpers are provided following Continental practice. The instrument panel is fitted to the steering column and includes a rheostatic switch for indirect lighting. The horn, trafficator and headlamp switches are fitted to an arm extending from the instrument panel.

Michelin steel-cord tyres will be fitted as standard original equipment to 180 of the 250 vehicles. Seven Michelin 11.00-20 tyres will be fitted to each of the 180 buses; 14-ply tyres will be used on the front wheels, and 12-ply tyres as rear twins. This type of tyre is ideal for operation in hot climates such as that of Teheran with a normal day-time temperature of 90 deg. F. and more, because their steel casings generate less heat, and dissipate heat more rapidly than casings made of any other material. This avoids the problem of casing "growth" and premature failure, which is often acute with ordinary textile tyres in hot climates.

Clayton Dewandre Brake Equipment

As specified by the customer, the air pressure equipment on the 250 A.E.C. Regent vehicles destined for Teheran is supplied by Clayton Dewandre Co., Limited. The major items are an air compressor, an unloader valve and reservoir, the Bendix-Westinghouse D1 brake valve, a pressure regulating valve and a reducer valve. Air is drawn into the compressor through a filter and an alcohol evaporator, the latter acting as a preventa-

(*Continued on page 12*)

Upper deck interior and, right, at the ceremony for handing over the first 40: Mr. W. R. Black, Lord Brabazon of Tara, of A.C.V., and Mr. Esmail Rahimi Larijani, of the Teheran Omnibus Board

The choice of the Passenger Transport Industry

Connolly Leather

CONNOLLY BROS (CURRIERS) LIMITED
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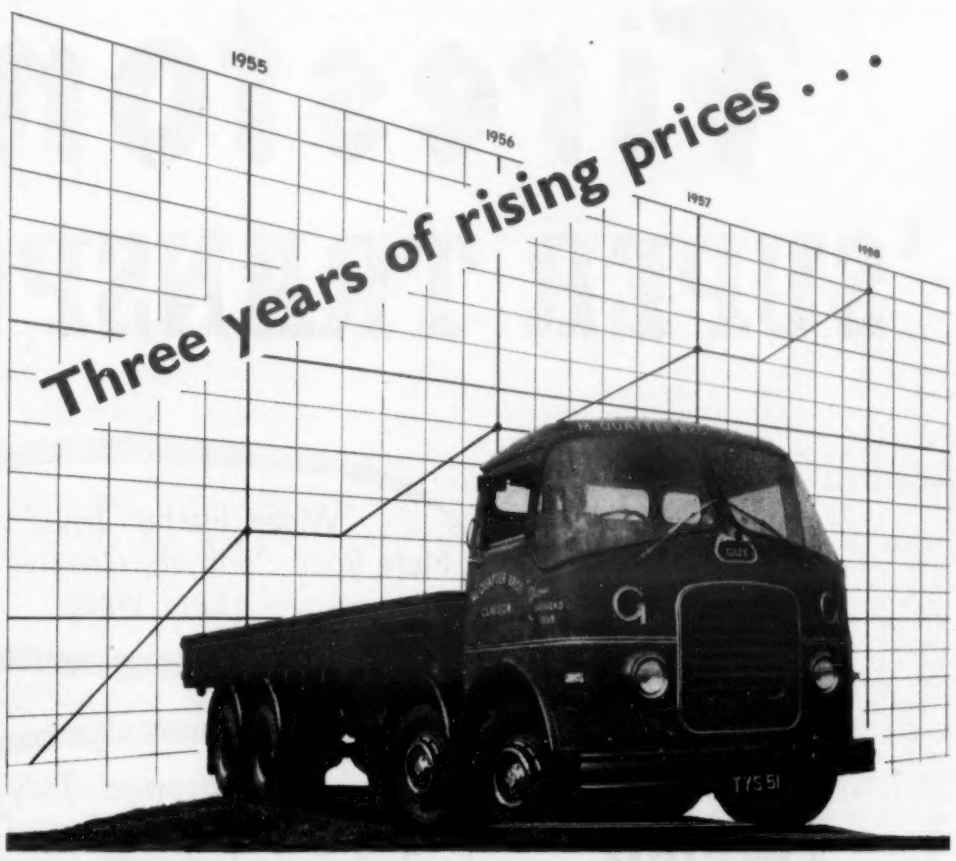
TELEPHONE: EUSTON 1661-5



— yet GUY trucks cost no more!

3 years of rising wages, material costs and overheads, yet Guy Truck prices remain at their 1955 level. Consider too the remarkably low running cost, fuel consumption and exceptionally high performance, and you will see why Guy Trucks are outstanding in the 2-24 ton class.

Guy Trucks were top value in 1955; this is even truer in 1958!

GUY tailor made for longer life at lower cost

GUY MOTORS LIMITED · WOLVERHAMPTON

NATIONAL IRANIAN OIL CO. LTD.
again order
LEYLAND 'SUPER HIPPOS'

Leyland receives £2,000,000 Contracts from Iran in 18 months

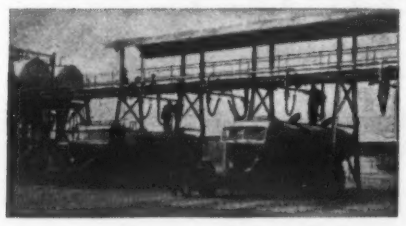
It's a profound thought that when out-of-the-ordinary transport jobs are called for, the name of Leyland invariably comes to mind.

For instance, the National Iranian Oil Company wanted another sixty chassis, each to haul 14,000 litres of oil over the icy mountains and tropical deserts of Iran without fuss, breakdown . . . with real economy. And, although they wisely obtained tenders from the world's leading manufacturers, the choice, once again, as on previous occasions, was for Leyland 'Super Hippos'.

These outstanding six-wheeled freight chassis, powered by 150 horse power diesel engines with flitched frames, five-speed gearbox, auxiliary gearbox and robust two-axled bogies, are 24 ton gross outfits with stamina to spare for tough assignments.

The selective task of the N.I.O.C. was simplified by the fact that they were already operating some 400 Leyland vehicles of the same type, and knew their ability to face up to the extremely arduous operating conditions, whilst at the same time giving economical fuel consumption and requiring a minimum of maintenance.

Similar chassis to those ordered by the N.I.O.C. are constantly being delivered to the discerning operators of Iran, and, of course, in other countries throughout the world where the ability to cope reliably with extreme operating conditions is essential.



Here are a couple of 'Super-Hippo' tankers loading up before their arduous snow-cum-desert trek across Iran.

Leyland 24 TON 'SUPER-HIPPO'
* Gross Train Weight 32 tons

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NEWS FROM ALL QUARTERS

Observation Cars in Scotland

Three observation cars are to run this year over Scotland's most spectacular railway routes. The provision of an additional car has enabled this facility to be extended to the Glasgow—Fort William line, and observation cars which proved so popular last season between Glasgow—Oban and Fort William—Mallaig will run again this summer. These vehicles, having extensive window space including large rear windows and equipped with armchairs, enable passengers to relax and enjoy in comfort the attractions of the unfolding panorama of mountain, moor and loch.

Mayor Greets Car-Sleeper Service

Glasgow, West of Scotland and Edinburgh motorists, their wives and families who travelled on the first car-sleeper train from Glasgow St. Enoch to Eastbourne on the night of May 29-30 were met upon arrival at Eastbourne the following morning by the Mayor of Eastbourne, Councillor J. W. G. Howlett, J.P., who extended a warm welcome to them. He sent a personal invitation to each of them to join him at breakfast. This generous welcome will ensure a happy start to a motoring holiday free from the strain of driving from Scotland to the South of England on crowded roads. A Stirling to Sutton Coldfield service was opened on June 3.

Yacht Basin at St. Pancras

British Waterways is to provide a yacht centre (for cruising vessels, not residential craft) at St. Pancras in London. A basin having access to the Grand Union Canal there is to be developed to give permanent mooring facilities for the increasing number of people using the canals and inland waterways for pleasure boating. This basin, which is at present disused and is about 250 ft. long by 100 ft. wide, is being dredged to provide accommodation for about 60 vessels of up to 5-ft. draught. Wooden catwalks will be erected around the sides of the basin. Sanitary and water facilities will be provided, and storage and other amenities may be added later.

Transfer of Bulawayo—Palapye Line?

A statement issued on behalf of the Prime Minister of the Central African Federation on May 22 said that investigations into the possible taking over from South African Railways of the operation of the line south of Bulawayo had not yet reached a stage where an approach could be made to the South African Government. The take-over proposal had been made to the Federal Government by Sir Edgar Whitehead, Southern Rhodesia Prime Minister. Manpower requirements of the Rhodesia Railways are for the time being almost fully satisfied and the proposal for manning of at least a portion of the line south from Bulawayo is said to be aimed at avoiding future unemployment, especially among immigrants. The present arrangement between the two railway administrations can be terminated at six months' notice. South African Railways only has an option to purchase the track as far north as Palapye in Bechuanaland; Rhodesia Railways is at present supplying the whole locomotive power for the Bechuanaland sector.

Machine Ticket Issue at Euston

A new booking office now serves the 425,000 passengers a year who book for travel on the electric suburban services out of Euston. Instead of the usual rows of ticket racks there is a Westinghouse Garrard Minor Multiprinter machine which prints, dates and records the blank tickets which are fed into it as they are required by the booking clerk. This machine is the first of its kind to be installed at any London station.

Humber Bridge Talks with B.T.C.

Representatives of the British Transport Commission met members of the Hull Corporation at Hull Guildhall this week to discuss the proposal for constructing a £14 million bridge across the River Humber. This was the last of a series of talks between Hull Corporation and interested parties before the promotion of a Parliamentary Bill seeking the necessary powers for such a bridge. Three points were discussed, the navigable channel of the river, the proposed height of the bridge and the effect of such a bridge on the Humber ferry and lighter services.

West Highland Rail Tour

On June 14, a former North British Glen class express passenger 4-4-0 locomotive will be seen again in its old haunts. On that date members of the Stephenson Locomotive Society (Scottish area) are having an outing on the West Highland line by the 3 p.m. Glasgow Queen Street to Crianlarich, returning at 8 p.m., and it has been arranged with British Railways that the train will be hauled by one of these locomotives. The Glens were built by the North British Railway at Cowlairs works between 1913 and 1920. Specifically designed for the difficult West Highland route to Fort William and Mallaig, they did some fine work in their days but have long since been displaced by more powerful types.

Weather Recording on Railways

Two more unmanned open-air weather-recording installations are to be brought into use on the London Underground system this year, as part of a research programme aimed at improving the utilisation of conductor rail de-icing facilities. They will be at Theydon Bois on the Central Line and Chorleywood on the Metropolitan Line, and with the existing installation at Queensbury on the Bakerloo Line will provide information on the effect of weather conditions on rail temperatures at three sites spread across the northern limits of the Underground system. Weather-recording installations were set up originally to provide data which would assist the Meteorological Office to improve the accuracy of its special forecasts of icing risk for conductor rails; these forecasts enable a decision to be made on whether to bring railway de-icing equipment into use. However, weather forecasts normally refer to air temperatures at the meteorological standard height of four feet above ground level, and when the rail-ice forecasts were first asked for it was found that there were little or no reliable data on the relationship between the four-foot air temperature and rail temperatures under varying weather and site conditions.

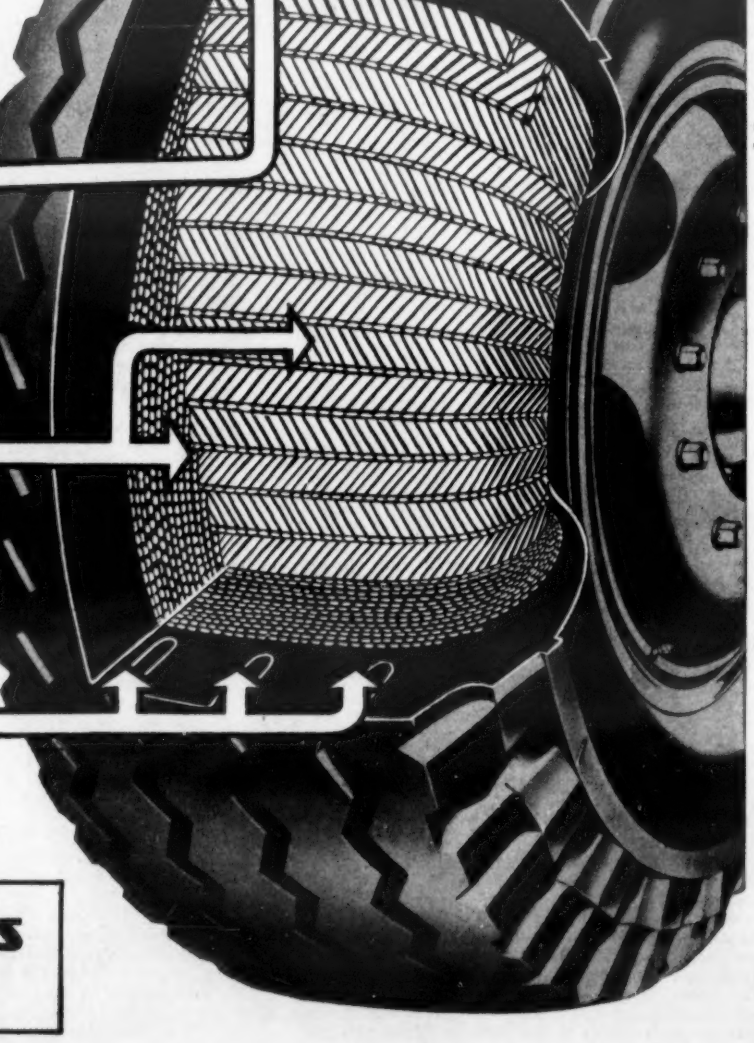
Firestone
'SUPER TRANSPORT'

A premium tyre for lower running costs

Wider, Flatter Tread .... More Road Contact, Greater Stability Less Wear

Safer, Stronger Body ... Safety-Tensioned Gum-Dipped Cord Body Prevents Growth, Tread Cracking, Ply Separation

Deeper non-skid pattern and a greater volume of tread rubber —for higher mileage



Experience Counts—
44 Factories throughout the world.
Firestone total sales exceed £1,000,000 per day.

DRIVE SAFELY

Firestone TYRES
—consistently good

COMMERCIAL AVIATION

First Flight of DC8

SWISS EAGLE CHANGE

BEFORE a crowd of 50,000 spectators, the first Douglas DC8 made its maiden flight at Long Beach on the morning of May 30. After a notably steady take-off the aircraft climbed to 5,000 ft. before turning northward over the Pacific parallel to the shore. It made a perfect landing at Edwards Air Force Base 2 hr. 10 min. later. The chief of the three Douglas test pilots aboard, Mr. A. G. Heimerdinger, commented afterwards: "Of all the DC models I have flown, the DC8 is the greatest of them all."

Costa Rica Joins I.C.A.O.

Costa Rica became the 73rd member state of the International Civil Aviation Organisation on May 31, thirty days after its instrument of adherence to the Convention on International Civil Aviation was deposited.

C.A.A. Hires Viscount to Kuwait

Central African Airways recently announced that an agreement to hire a Viscount airliner had been concluded with Kuwait Airways, an associate of British Overseas Airways Corporation. The general manager of C.A.A., Mr. M. Stuart-Shaw, said: "It will be recalled that C.A.A. had previously stated that it is unable to find sufficient work for its fleet of five Viscounts during the period that it is waiting for Woodvale Airport, Bulawayo, to become available. The present agreement, therefore, has been made for a period of six months starting May 28. The aircraft will be operated on regular scheduled services in the Persian Gulf area and to and from London."

Swiss Eagle Service Modified

From June 1 the Luxembourg—Basle section of the Swiss Eagle service, which was formerly operated by coach, has been made by rail. There has been no change in the end-to-end timings, but passengers are offered a more comfortable journey. Reserved second-class seats are available on the train at Luxembourg and Basle. On arrival at Luxembourg Airport, passengers are transferred to the station by special coach, and refreshments are available at the station before departure. The train to Basle departs at 02.06 and arrives in Basle at 06.35. On the return journey, the train leaves Basle at 17.44 and arrives at Luxembourg at 23.38, which makes a very convenient connection with the aircraft at Luxembourg Airport.

February Activity at British Airports

Air transport movements at United Kingdom airports numbered 15,943 in February, 1958, and passenger traffic by 282,850, increases of 6 per cent and 1 per cent respectively compared with February, 1957. Freight on and off loaded amounted to 7,994 short tons, an increase of 6 per cent, and Post Office mail set down and picked up decreased by 3 per cent to 1,332 short tons. At London Airport there were 6,730 air transport movements, an increase of 6 per cent over February, 1957, and 168,881 passengers were handled, also an increase of 6 per cent. Airports at which passenger traffic increased considerably over February, 1957, were Ferryfield 41 per cent, Glasgow (Renfrew) 13 per cent and Southend (Rochford) 10 per cent. Other substantial increases in passenger traffic were at Newcastle (Woolsington by 369 per cent to 244, Blackpool (Squires Gate) by 149 per cent to 531, Croydon by 75 per cent to 1,510, Cardiff (Rhoose) by 19 per cent to 1,547 and Bournemouth (Hurn) by 13 per cent to 791. Figures provided by the Channel Islands authorities show that aircraft movements in the month totalled 1,493 (1,437) and the passengers 12,546 (11,674) of whom 989 (1,378) were in transit. Freight increased markedly from 169.4 tons to 305.8 tons.

New Services Approved

The Minister of Transport and Civil Aviation, after considering the recommendations of the Air Transport Advisory Council, has approved the operation of the following air services:

An inclusive tour service between Lydd and/or Gatwick and Cophenhagen; Silver City Airways, Limited, until September 30, 1958.
An inclusive tour service between Lydd and/or Gatwick—Munich; Silver City Airways, Limited, until October, 1958.
An inclusive tour service between Birmingham and Palma; Eagle Aviation, Limited, until November 15, 1958.
An inclusive tour service between Lydd and/or Gatwick and Luxembourg; Silver City Airways, Limited, from April to September each year until September 30, 1959.
An inclusive tour service between Lydd and/or Gatwick and Nice; Silver City Airways, Limited, until October 6, 1958.
An inclusive tour service between Lydd and/or Gatwick and Toulouse; Silver City Airways, Limited, until October 15, 1958.
An inclusive tour service between Lydd and/or Gatwick and Salzburg; Silver City Airways, Limited, until October 13, 1958.
An inclusive tour service between Lydd and/or Gatwick and Palma; Silver City Airways, Limited, until October 31, 1958.
An inclusive tour service between Leeds and Barcelona; Silver City Airways, Limited, until September 29, 1958.
An inclusive tour service between Lydd and/or Gatwick and Perpignan; Lydd and/or Gatwick and Bordeaux; Britavia, Limited, until October 31, 1958.
An inclusive tour service between London (Blackbushe) and Palma; Eagle Aviation, Limited, until October 27, 1958.
An inclusive tour service between London (Blackbushe) and Perpignan; Eagle Aviation, Limited, until October 26, 1958.
An inclusive tour service between Manchester and Nice; Eagle Aviation, Limited, until October 19, 1958.
A normal scheduled service between Lydd and Toulouse; Silver City Airways, Limited, from May to October inclusive each year until October 31, 1964.
An inclusive tour service between London (Blackbushe) and Saragossa; Eagle Aviation, Limited, until October 27, 1958.
A normal scheduled service between London (Blackbushe) and Pisa; Eagle Airways, Limited, from March to October inclusive each year until October 31, 1964.
A normal scheduled service between Manchester (Ringway) and Pisa; Eagle Airways, Limited, from April to October inclusive each year until October 31, 1964.
An inclusive tour service between Manchester and/or Newcastle and Luxembourg; Silver City Airways, Limited, seasonal May-September each year until September 30, 1959.
An inclusive tour service between Lydd and/or Gatwick and Basle; Silver City Airways, Limited, from April to October inclusive each year until October 31, 1959.
An inclusive tour service between Manchester and/or Newcastle and Basle; Silver City Airways, Limited, until September 30, 1958.
An inclusive tour service between Manchester and/or Leeds and Stavanger; Silver City Airways, Limited, until October 31, 1958.
An inclusive tour service between Manchester and/or Newcastle and Ostend; Silver City Airways, Limited, until September 30, 1958.
An inclusive tour service between London Airport and Nice; Fieldair, Limited, until October 31, 1958.
An inclusive tour service between Lydd and/or Gatwick and Luxembourg; Silver City Airways, Limited, April to September each year until September 30, 1959.
An inclusive tour service between London Airport and Perpignan; Hunting-Clan Air Transport, Limited, until October 31, 1958.
An inclusive tour service between Manchester and Bergen; Eagle Aviation, Limited, until September 28, 1958.
An inclusive tour service between London Airport and Pisa; Hunting-Clan Air Transport, Limited, until November 30, 1958.
An inclusive tour service between London (Blackbushe) and Madrid; Independent Air Travel, Limited, until October 6, 1958.
A normal scheduled service between Blackpool and Ostend; Silver City Airways, Limited, from April to October inclusive each year until October 31, 1964.
An inclusive tour service between Southend and Perpignan; B.K.S. Air Transport, Limited, until October 31, 1958.
An inclusive tour service between London (Blackbushe) and Perpignan; Dan-Air Services, Limited, until September 30, 1958.

SOUTHERN REGION MOTIVE POWER RETIREMENT

Mr. T. E. CHRIMES, M.I.Mech.E., M.I.Loco.E., M.Inst.T.

• • • • • •

The retirement on May 31 of Mr. Thomas Edward Chrimes from the post of motive power superintendent of the Southern Region of British Railways which he had held under various titles since November, 1944, has already been recorded in MODERN TRANSPORT. He began his career in 1910 on the London, Brighton and South Coast Railway as a pupil, first under Mr. D. Earle Marsh, who was then locomotive engineer, and subsequently under Mr. L. B. Billington. In 1913 he was made assistant foreman at New Cross locomotive depot and later was promoted to be locomotive foreman at Eastbourne and St. Leonards. Mr. Chrimes served with the Royal Naval Air Service and the Royal Air Force during the 1914-18 war and thereafter returned to the L.B.S.C.R. In 1921 he was appointed district locomotive superintendent, Battersea, and, following the railway grouping of 1923, he became assistant locomotive running superintendent, eastern division, at Waterloo. This post he occupied for a long period during which much was done to improve the operating efficiency of the Southern Railway and nowhere more so than on the eastern division. When war broke out in September, 1939, he was appointed central divisional locomotive running superintendent and continued in that capacity until his transference to headquarters in May, 1942, as assistant to the locomotive running superintendent. As already indicated, he was promoted superintendent of motive power in November, 1944, the title being changed to that which he has now relinquished four years later. Mr. Chrimes, who is a member of the Institution of Mechanical Engineers, Institution of Locomotive Engineers and the Institute of Transport, was closely connected with some of the most extensive schemes for railway motive power modernisation ever undertaken in Britain.

BRIDGE FOR MOTORWAY

L.M.R. Work Near Lancaster

ROAD TO BE EXCAVATED

A NEW bridge to carry a double-track railway and a 15 ft. wide road over a new motorway is to be built by the London Midland Region of British Railways at Carnforth Brow, Lancashire. Work will begin this month. Situated a mile east of Carnforth, the bridge is to be constructed for the Ministry of Transport to carry the Carnforth—Wennington line over the Lancaster by-pass section of the North-South Motorway.

The new bridge, which will have a 73 ft. square span across the roadway, has been designed with a steel superstructure consisting of three main girders of welded construction. The centres of the main girders are at 28 ft. 6 in. for the railway and at 17 ft. for the accompanying road. Cross girders under the railway are broad flange beams made up into welded compounds, and those under the road bridge are rolled steel joists. The deck of the bridge will be of continuous reinforced concrete slabs cast in situ.

The bridge will cross the proposed motorway at an angle of about 60 deg. so that although the square span across the motorway is 73 ft., the bridge girders rest on bearings 85 ft. apart. The bearings at one end are of the rocker type. The substructure will comprise vertical abutments and battered wing walls of conventional design constructed of concrete with brick facing.

Method of Erection

The bridge will be erected prior to the construction of the motorway, the final job being the excavation of the earth between the abutments down to motorway level. Initially the tracks will be supported on temporary way beams to enable the abutments and wing walls of the new bridge to be constructed in trenches lined with steel sheet piling. The girder work will be assembled alongside the railway on rolling-in runways. The completed and waterproofed bridge unit will then be rolled into position and jacked down on its bearings. This will be done during a weekend so as to minimise interference with train services. The motorway will then be excavated beneath the bridge.

The bridge has been designed under the direction of Mr. J. Taylor Thompson, chief civil engineer, London Midland Region. The steelwork contractor is Booth and Sons (Bolton), Limited, and the general contractor Sir Lindsay Parkinson and Co., Limited.

★

ORGANISATION OF TRANSPORT

(*Continued from page 3*)

Commission's finances but to trade and industry as well as the general public.

True co-operation and co-ordination is not achieved merely by issuing instructions from the top of a large organisation. I am sure that co-operation between our road and rail services has been hampered in the past by the system of centralised functional control which has obtained on British Railways. In the scheme now being worked out for the decentralisation of management on the railways, endeavour is being made to obtain an approximate harmonisation of the areas of responsibility of subordinate managers of the rail and road services respectively.

Freedom of Choice

The principle that the individual should be free to make his own choice between the means of transport provided is sound enough. It does not, however, imply that the decision as to what means of transport should be provided, in the national interest, can be determined by a kind of Gallup poll among users. There are, in fact, as has been pointed out, a number of controls and restrictions in existence in all countries. If there were no controls there could only be chaos.

It seems to me to be patent that governments should have a transport policy and should exercise sufficient controls to ensure a co-ordinated public transport system best designed to serve the needs of the country as a whole. The problem, I think, is not whether governments have a duty to produce a national policy for the co-ordination of transport but it is rather how far they should intervene in order to do this and what should determine their choice of controls. Very broadly the answer to the question "how far" should be in my opinion "far enough to achieve a good result and no further."

Air Transport

I hope that I may be forgiven for having said so little about the role of air transport in a co-ordinated transport system. In countries of great distances, such as the United States, the air today is supreme for rapid passenger travel, and is often as cheap as surface travel. In smaller countries the distances are not long enough to give the air its full advantage. No need, one might say, for co-ordinating action by Government in any case. Let the best win; the ordinary laws of supply and demand will settle the issue. I quite agree, provided that the competitors both start from scratch. In many countries, however, by one means or another, the airways are given a considerable amount of assistance by Government. If subsidised air transport is competing with a railway system still handicapped by out-of-date controls, it will not be so certain that the better will win, or that the best interests of the community will be served. I do not say that this is what happens in the United Kingdom; I speak in generalities.

The International Aspect

Mention of the air leads me to say that the need for co-ordination of transport is not restricted by national borders. A common defence organisation, a common market, the gradual elimination of customs barriers within it, a Channel tunnel, these are just examples of the things that are happening or may happen to draw the peoples of the western world closer together and so turn their transport problems into common problems.

Fortunately professional men find it easy to work together in spite of national differences. Railwaymen, road transport men, airline operators, shipping men speak a common language to each other the world over. The Institute of Transport represents no single means of transport, but transport as a whole, as a single industry, as a unit. Moreover it is not a United Kingdom Association but extends to many countries with common transport problems and common associations deriving from their past. To transport men in all the countries which subscribe to it, it stands for friendship and co-operation in the better organisation of transport.

DAGENHAM FORD EXPANSION

Thames Foundry In Full Production

THE modernisation and expansion programme announced by Ford Motor Co., Limited, Dagenham, in 1954 is now nearing completion. Costing over £65 million, it is the most ambitious programme ever to be undertaken in the European motor industry and is being financed entirely from the company's earnings. The tremendous postwar growth of the company dates from 1946, at which time facilities comprised a manufacturing and assembly plant, a service stores building and two plants outside the Dagenham area. By 1954, the company had added a new commercial vehicle assembly building and extensions to the tractor bay and to the foundry. It had also acquired Briggs Motor Bodies, Limited, Kelsey Hayes Wheel Company and a further eight plants outside the Dagenham area. In all, this provided an additional floor area of 4 million sq. ft., bringing the total to 6.2 million sq. ft. Fixed assets had grown from £14 million to £42 million, labour strength from 15,700 to 40,000, and average daily production from 372 to 1,220 units.

The modernisation and expansion scheme will add a further 3 million sq. ft. of floor space and will almost treble the company's fixed assets. By 1960, labour strength is expected to exceed 50,000 and the 1954 production capacity will have been doubled. With occasional setbacks due to various outside influences, production has steadily increased since the war from an average daily output of 372 units in 1946, 750 in 1950, 957 in 1953 to an average of 1,830 units a day during April this year.

Current Expansion Projects

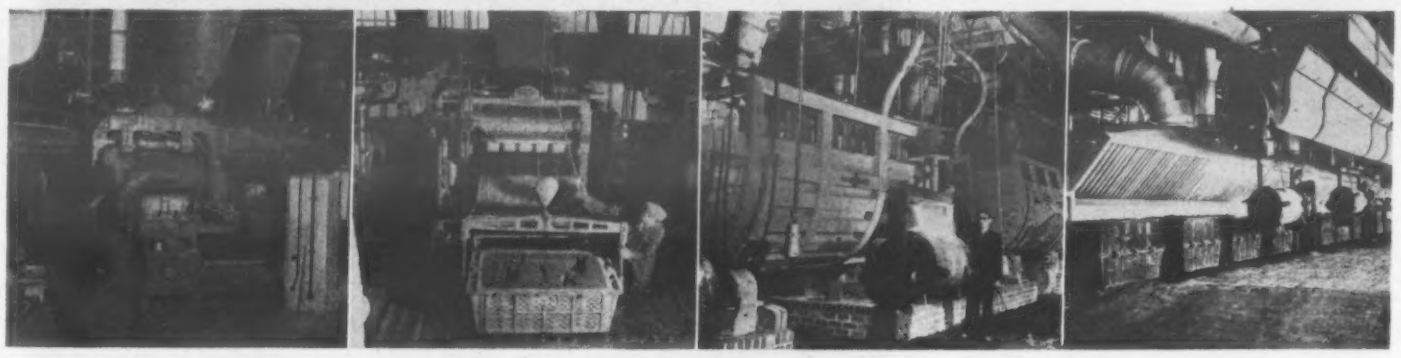
Among the major features of the current programme are a new body press shop (£5½ million), a vast new assembly building (£10 million), a new machine shop (£2 million), a new spare parts depot at Avely, Essex (a description of this £2 million project appeared in MODERN TRANSPORT for April 20, 1957) and a new £7½ million foundry, a description of which follows. Apart from extensive modernisation of existing facilities, the remainder of the programme comprises an extension to the existing press shop, a new die stores, a new body division toolroom, extension of the existing body assembly building, a new forge, extensions to various plants outside Dagenham and a machinery plant at Woolwich.

Construction of the new body press shop at Dagenham is completed and a number of presses are already operating. Installation of the remaining equipment, in this 323,000 sq. ft. building, which will eventually house 12 lines of presses ranging from 300 to 2,000 tons capacity, is proceeding and completion is expected by the end of this year. The biggest single project in the programme, the new paint, trim and assembly building with a floor area of 1,390,000 sq. ft., is rapidly taking shape at Dagenham. It will be linked by overhead conveyor with the body plant and completion is scheduled for April, 1959. The new machine shop at Basildon, Essex, which has a floor area of 256,000 sq. ft. and produces large quantities of machined components and all radiator and hub caps for British Ford vehicles, came into operation in the spring of 1957, at about the same time as the new parts depot at Aveley.

Productivity Doubled

The Thames Foundry is planned for a daily capacity of about 400 tons of finished castings—about half the total Ford output. For the most part, it manufactures the heavier castings, such as cylinder blocks and heads and large tractor components, and of this class of work it has an output per man-hour twice that achieved with previous methods of manufacture. The foundry can justly claim to be one of the most advanced in the world. In design, degree of mechanisation and standard of working conditions, it is superior to anything in Europe and the equal of the most modern plants in America.

The two buildings constituting the foundry are located on a 22-acre site at Dagenham. The main building, 1,200 ft. long by 180 ft. wide and 70 ft. high, is a two-floor structure housing various services and all employee amenities on the lower floor and the main foundry operations of melting, moulding, coremaking and fettling on the main operating floor. The second building, measuring 700 ft., 60 ft. by 70 ft. and linked to the main building by covered overhead conveyor systems, accommodates the sand handling and drying, castings cooling, grinding and cleaning sections. Bays 60 ft. square were selected as the design basis and steel columns at 60 ft. centres support lattice girders which form the fabric of the main building operating floor. The girders are utilised for carrying much of the sand distribution and monorail conveyor equipment and material storage hoppers, thus eliminating additional supporting columns and providing maximum working space at floor level.



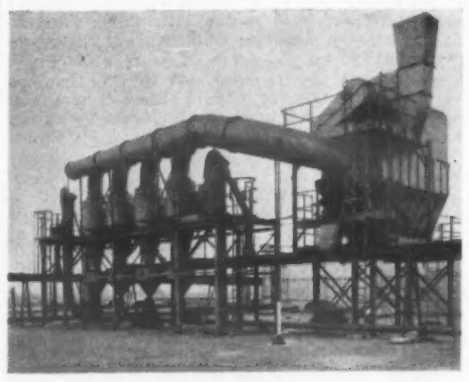
Production phases in the Ford Foundry: Four fully automatic and two semi-automatic core-blowing and stripping machines producing cores for various tractor castings; one of the 16 automatic moulding machines transferring a 16-cwt. mould and flask to the conveyor; transferring molten metal from one of four 8-ton capacity hot-metal receivers into a 2,000-lb. capacity ladle; and (extreme right) pouring heavy castings from the electrically operated ladles under the smoke and flame extraction system

The best possible working conditions have been provided. An outstanding feature is the heating, ventilation and air-purifying system which warms the building and changes the whole air content more than seven times an hour—in the moulding and fettling departments as many as 16 times an hour. All air entering the building is cleaned, warmed in winter and fan-cooled in summer. Steam heaters round the perimeter of the building and over main aisles and doorways compensate for heat losses. Windows and fans are thermostatically controlled to allow for temperature variations. Special dust-extraction systems collect dust at the source and deliver it by ducting to wet-type separators. A sluicing system receives the slurry produced together with slag from the cupolas and carries it to settling tanks and ponds.

Amenities include a canteen accommodating 700 at a sitting, washrooms and showers and a heated locker for each man providing separate compartments for working and street clothes.

Mechanical Handling

The heavy manual duties normally associated with foundry work have been eliminated wherever possible and mechanical handling equipment installed. An indication of the degree of mechanisation employed is indicated by the amount of power necessary to drive all the equipment. Approximately 15,000 k.v.a.—enough electricity for the domestic needs of a fair-sized town—is distributed by five sub-stations on the roof of the main building. Pig iron and coke reach the foundry by rail wagons and a telpher system lifts containers from the wagons and conveys coke to storage hoppers adjacent to cupola melting units to avoid rough and excessive handling. The same telpher system handles limestone.



One of many dust-collection units which form an extensive dust-and-fume-collection system throughout the foundry

Skip hoist machines load pre-weighed charges of pig iron, scrap, coke and limestone into four 108-in. diameter hot-blast water-cooled cupolas (two for each working shift). Each cupola has an 8-ton receiver which pours the hot metal into ladles. The ladles are suspended from monorail-supported electric towing and hoisting units to facilitate transferring the metal to the moulds at the pouring stations. In addition, there is a 20 ton per hour pig-cast machine for pigging surplus metal.

Semi-Automatic Moulding

The two moulding lines are fed from their own automatic sand systems and are fully equipped with smoke and fume collection apparatus. Each line incorporates eight semi-automatic moulding machines working inside a continuous 800-ft. mould conveyor of the latest pallet design. The castings are removed from the drag mould by means of special hook carriers suspended from a monorail (cooling) conveyor located vertically above each mould conveyor. The latter delivers them to the ancillary building where, after cooling for approximately three hours, they have the sand and cores removed by vibrators before passing through a battery of grinding machines which remove any metallic surface irregularities. The castings are then returned to the main building by two further monorail conveyors for the cleaning operations and finally to eight fettling lines for finishing and, where required, for water test. They are then ready for the machine shop.

Cores are formed and baked at least 24 hours ahead of the moulding process. The core shop is centrally located in the main building and conveniently arranged in order to supply cores as required for each moulding line. The core sand is mixed at a central high-level station by a completely automatic system actuated by the insertion of a punched card (one for each type of sand mix) into the weighing system. The mixed sand is conveyed by two pneumatic systems—the only ones of their kind outside the U.S.A.—to the core-making machines.

(Continued on page 12)

Meat transporter built by J. Ward & Sons Ltd. for their own use, covered with 'Darvic' p.v.c.

'Darvic' keeps this meat transporter hygienic and attractive

THIS MEAT TRANSPORTER is panelled with 'Darvic' p.v.c. sheet. 'Darvic' is a material that stands up well to all kinds of weather, retaining its handsome, clean appearance through many years of use. It is hygienic, odourless and it will not taint food—an obvious advantage in trucks of this nature. Protective 'Darvic' is extremely tough yet comparatively light in weight and even in thin sheets has considerable rigidity.

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A range of attractive colours is available including multi-colour laminates.

'DARVIC'

'Darvic' is the registered trade mark for the rigid p.v.c. sheet made by I.C.I.

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LONDON BUS DISPUTE

Statement by London Transport Executive

FOLLOWING the abortive negotiations over last weekend between the parties to the London bus dispute the London Transport Executive issued the following statement: The Executive greatly regrets that to date it has not been possible to find a basis for agreement for ending the bus strike. The negotiations on Saturday and Sunday took place on the basis of the suggestions made by the Prime Minister to the T.U.C. for a settlement of the strike, and the meeting was requested by the union against that background. These suggestions were:

(*a*) Payment of an increase of 8s. 6d. per week to the Central Road Services operating staff;
(*b*) An additional payment to drivers of Green Line single-deck coaches to be made at the same time;
(*c*) To fix a definite date with London Transport for the review of wages of the staff included in the claim to whom the award of the Industrial Court did not give an increase.

As to (*a*) this is the amount awarded by the Industrial Court which the Executive has throughout been willing to apply: An offer on the lines of (*b*) was made by the Executive on May 23.

Advance on Previous Offers

On May 23 the Executive offered to begin a review of the "excluded staff" in the summer. Last Saturday it advanced this date to any date in the first week in July; later it proposed that it should begin on the day that work is resumed, without commitment as to the result of the review. This was rejected by the Union, which proposed that an increase should be paid to these staff now pending the review—an immediate interim or token payment of 4s. a week was suggested. This the Executive was unable to accept because it is the point at issue on which the strike has taken place.

When it became clear that no agreement was possible on the basis of the Prime Minister's suggestions, the Executive made a further offer—to refer the question of the pay of the "excluded staff" back to Sir John Forster (chairman of the Industrial Court which made the award) for further review having regard to the time which has elapsed since the hearing before the Industrial Court in February. This offer was not taken up by the union.

Reasonable Basis for Settlement

It will be seen, therefore, that in an endeavour to facilitate a settlement, the Executive has moved a considerable way since before the strike started, when it offered a review of Green Line wages at "an early date," and of the wages of the remaining staff "in the autumn." The Executive believes that short of abandoning, under duress of a strike, the principle that arbitration awards are accepted, the proposals it has made offer a fair and reasonable basis for settlement.

The statement added that the Executive would have to meet the increased cost arising from the settlement by substantial cuts in services and other economies. This need was accepted by the union. Neither staff whose labour had been withdrawn nor staff who had reported for duty during the period of withdrawal of labour should be prejudiced either by the Executive or by the union by their actions during this period. The Executive and the union would undertake to use their best endeavours to ensure that the agreement was observed in the spirit as well as in the letter.

(*The subject is reviewed on page 1*)

Diesel Traction

(*Continued from page 5*)

instruction and training of maintenance and operating staff and it was specified in all contracts that the manufacturers should provide training courses for C.I.E. personnel.

Single-manning of the five original diesel-electric shunting locomotives, when working within the limits of the shunting yards, had been accepted by the trade unions. Single manning of railcars had also been accepted after certain adjustments had been made in the signalling regulations in regard to train token exchanges on single lines.

Prior to the delivery of the main fleet of diesel-electric locomotives in 1955 many meetings to consider the question of single-man operation of the new units were held between the board and the trade unions. At first the board's proposals were not accepted, but after further negotiations agreement was reached and single manning was introduced. To cater for the redundancies resulting from this decision the board undertook from the date of the agreement to retain in their grades all appointed drivers and to provide alternative employment in other departments without loss of rate to all firemen no longer required for footplate duties.

Effect of Dieselisation on Working

By March 31, 1958, all diesel motive power purchased by the board had been delivered and had been put into service except two locomotives of 550 h.p. and one of 400 h.p. Some 51 locomotives and two railcars went into service during the financial year 1957-58, so the full effect of the introduction of diesel motive power will not be known until the end of the current financial year. The following table shows the growth of diesel working during the last eight years:

Financial year	*Total train mileage*	*Percentage worked by Steam locos.*	*Diesel railcars*	*Diesel locos.*
1950-51	10,852,592	99.4	0	0.6
1951-52	9,745,907	99.3	0	0.7
1952-53	9,430,809	96.8	2.5	0.7
1953-54	9,649,826	85.4	13.4	1.2
1954-55	10,189,339	80.3	18.6	1.1
1955-56	10,338,081	75.2	18.5	6.3
1956-57	9,788,122	43.1	17.2	39.7
1957-58	9,251,822	26.8	18.2	55.0

The following statistics of steam locomotive operation for the year 1951-52 and of diesel locomotive operation for the year 1956-57 reflect some of the improvements obtained from the changeover to diesel traction:

	Steam 1951-52	*Diesel 1956-57*
(*a*) Total engine-hours per train engine-hour (passenger)	1.35	1.07
(*b*) Total engine-hours per train engine-hour (freight)	2.15	1.45
(*c*) Train-miles per train engine-hour (passenger)	17.85	31.11
(*d*) Train-miles per train engine-hour (freight)	10.93	16.62

Operating Experience

Due to the rapid rate at which the railcars and the locomotives were introduced and due to the fact that the equipment was new to Coras Iompair Eireann it was inevitable that, apart from the teething troubles usually associated with new machines, many initial difficulties and mechanical troubles would be experienced. In the case of railcars, during the first few years, many modifications to the equipment were made and maintenance inspections and procedures were initiated to overcome persistent defects. It can now be said that the major mechanical and electrical problems have been solved and a high degree of reliability obtained.

In the case of the locomotives the problem-solving stage has not yet been passed but it is felt that all the difficulties likely to arise have already manifested themselves. Most of the initial difficulties have been eliminated and action is in hand to clear the remainder. From both the railcars and the locomotives, taking into account units stopped for all reasons, an availability of 80 per cent has been achieved.

Economies

It is not possible at this stage to give particulars of all the economies which will follow the change from steam traction to diesel traction, but figures are available in respect of fuel and operating costs.

The total cost of fuel for the year ended March 31st, 1952, was £1,571,241, and for the year ended March 31, 1958, it amounted to £854,704, i.e. a reduction of £716,537. The engine mileage worked in the latter year was 95 per cent of that worked in the former year. If allowance is made for the increase in the cost of coal between 1951-52 and 1957-58, the saving in fuel costs would work out at about £1 million for the year 1957-58. The full diesel fleet was not in service during that year and it is estimated that there will be an additional saving of £120,000 in the cost of fuel during the year 1958-59. Thus the cost of fuel will be about £840,000 per annum less than it was in 1951-52 and would amount to nearly £1,120,000 per annum if increases in the cost of coal since 1951-52 were taken into account.

It is not possible to give the full cost of maintenance and overhaul of the diesel locomotives because part of this work is still being done by the contractors under the terms of the conditions of contract. The actual expenditure by Coras Iompair Eireann on repair and maintenance of diesel locomotives during 1957-58 worked out at 1s. per mile. This cost is expected to increase when the guarantee period for locomotives expires.

The total staff engaged on train operation at the beginning of 1952 numbered 2,124, and at the beginning of 1958 this had been reduced to 1,465. The reduction of over 30 per cent was attributable largely to the changeover to diesel traction. The expenditure on wages of train operating staff in 1957-58 was £135,000 less than in 1951-52. If allowance is made for wage increases in the interval the reduction would amount to £215,000.

★

Two new products developed by the Amber Chemical Co., Limited, 11a Albemarle Street, London, W.1, are Amber SSR 511, small amounts of which added to fuel oils will, it is claimed, reduce to a harmless level the formation of sludge during normal storage periods, and Amber SSR 513, designed for the treatment of diesel fuels to soften and break up the binders in carbon and lower its ignition point, thus preventing the formation of the hard deposits which commonly accumulate in the combustion rings and grooves.

★

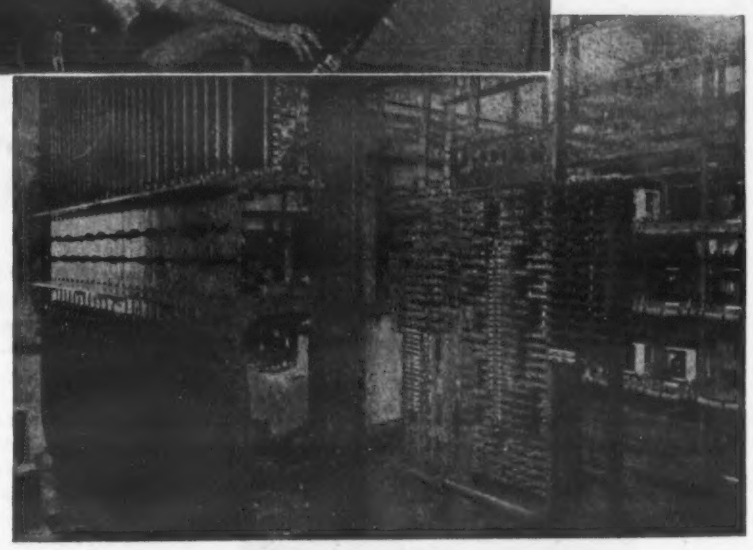
B.T.C. TRAFFIC RECEIPTS: PERIOD NO. 5—1958

	Four Weeks to May 18, 1958			Aggregate for 20 Weeks		
	1958	1957	+ or —	1958	1957	+ or —
	(£ thousands)			(£ thousands)		
PASSENGERS						
British Railways	9,553	9,856	— 303	45,145	47,986	— 2,841
London Transport Railways	2,017	1,760	+ 257	9,153	9,180	— 27
London Transport Road services	2,329	4,549	— 2,220	19,863	23,066	— 3,203
Provincial and Scottish Buses	4,398	4,403	— 5	20,756	21,572	— 816
Ships	361	433	— 72	1,457	1,398	+ 59
Total Passengers	18,658	21,001	— 2,343	96,374	103,202	— 6,828
FREIGHT, PARCELS AND MAILS						
British Railways						
Merchandise and livestock	7,638	8,099	— 461	37,725	44,588	— 6,863
Minerals	3,660	4,119	— 459	19,359	21,205	— 1,846
Coal and coke	10,153	9,082	+ 1,071	52,456	50,850	+ 1,606
Parcels, etc., by passenger train	4,074	3,821	+ 253	19,716	19,210	+ 506
Collection and delivery, etc.	969	1,018	— 49	4,821	5,297	— 476
Total Freight, British Railways	26,494	26,139	+ 355	134,077	141,150	— 7,073
Others	4,279	4,195	+ 84	20,724	20,939	— 215
Total Freight, Parcels and Mails	30,773	30,334	+ 439	154,801	162,089	— 7,288
Aggregate	49,431	51,335	— 1,904	251,175	265,291	— 14,116

Comparisons are affected by increases in rates which have been authorised from time to time, by the London Transport road services strike which began on May 5, and by the restrictions on oil supplies which operated from November 7, 1956, to May 14, 1957

New Signalling at Cromwell Road

Interior of Cromwell Road Box



One of the relay rooms and interlocking machines

On July 28th London Transport brought into service the re-arranged track layout between South Kensington and Gloucester Road on the District Line, together with the modernised signalling which included a centralised control at Cromwell Road.

Formerly operated from five boxes, the new box controls the signalling of the whole area by two new push-button control desks, with the aid of three new remotely operated interlocking machines in the South Kensington, Gloucester Road and Triangle Sidings area, and three already existing at High Street Kensington, Earls Court East, and Earls Court West.

The signalling equipment was made and supplied to the requirements of Mr. R. Dell, Signal Engineer, London Transport Executive.

by

WESTINGHOUSE

Westinghouse Brake and Signal Co. Ltd., 82 York Way, London, N.1

OFFICIAL NOTICES

TEES-SIDE RAILLESS TRACTION BOARD

CHIEF ASSISTANT

CHIEF ASSISTANT required—salary A.P.T. Grade III (£845—£1,025); N.J.C. conditions, superannuation scheme. Details and application forms from Clerk to the Board, Town Clerk's Office, Middlesbrough, to be returned by 9 a.m. on June 19, 1958.

NORTH WESTERN ROAD CAR CO., LIMITED

ASSISTANT ENGINEER

NORTH Western Road Car Co., Limited, invites applications for the position of Assistant Engineer.

Applicants must hold an Ordinary or Higher National Certificate in Mechanical Engineering or equivalent, and must have had experience in the maintenance and operation of public service vehicles. The salary will be in accordance with such qualifications and experience.

Applications, which will be treated in strict confidence, should give full personal particulars, including age and qualifications and set out the history and experience. They should be addressed to Mr. G. Brook, General Manager, North Western Road Car Co., Limited, Charles Street, Stockport, to reach him not later than June 16, 1958.

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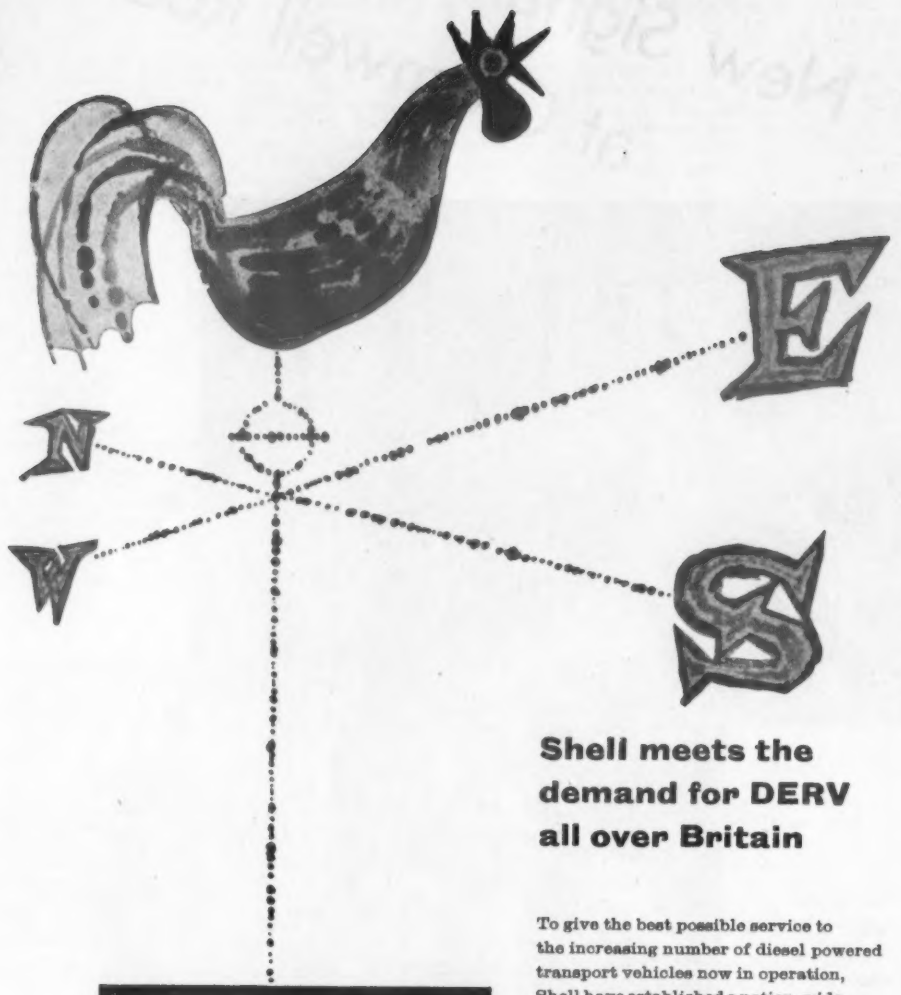
BRISTOL — 70 Prince Street — *BRISTOL 22315*
GLASGOW — 12 Dixon Street, C.2 — *CITY 3381*
LIVERPOOL — 11 Old Hall Street, Liverpool, 3 — *CENTRAL 6386*
NOTTINGHAM — Pavilion Building, Pavilion Road West Bridgford — *NOTTINGHAM 83481*
LONDON — 22-24 Bermondsey Wall West, S.E.16 — *BERmondsey 4533*



Shell meets the demand for DERV all over Britain

To give the best possible service to the increasing number of diesel powered transport vehicles now in operation, Shell have established a nation-wide network of agencies selling SHELL DERV. Wherever you send a diesel vehicle you can be sure that a SHELL DERV station will be close at hand. Your drivers can pay cash for SHELL DERV or by showing a Shell "Authority Card" they can refuel by a system of pre-arranged credit at any Shell agency.

PETROL AGENCY DERV — SHELL DERV

YOU CAN BE SURE OF SHELL DERV

DOUBLE-DECKERS FOR TEHERAN

(*Continued from page 7*)

tive against freezing of moisture in the valves of the air pressure system. Compressed air from the compressor passes through an additional line filter and the unloader valve before entering the reservoir. A safety valve is also fitted into this line to ensure that pressure in the system cannot rise above a safe working limit in the unlikely event of unloader valve failure. Supply is taken from the reservoir to the D1 brake valve and also, via the pressure regulating and reducer valves, for gearbox operation. A low-pressure indicator is piped into the system to provide visual warning when the pressure in the reservoir is below that required for brake operation.

The compressor is a horizontal, air-cooled type with a bore of 2.625 in. and a 1.75 in. stroke, giving a nominal capacity of 10 cu. ft. per minute at 1,000 r.p.m. The design is orthodox, with crankshaft running in ball bearings and carrying two connecting rods and pistol assemblies. The crankshaft centre journal operates an oscillating-type pump which draws oil from the compressor sump and feeds the big ends via drillings in the crankshaft. The pistons and cylinder walls are splash lubricated. Flat, disc-type inlet and discharge valves are embodied in the cylinder head which is also fitted with an inlet manifold.

Protection

The unloader, interposed in the line between compressor and reservoir, is normally open for the passage of compressed air, but a further connection from the reservoir admits pressure above a predetermined figure (110 lb./sq. in.) to open the valve to atmosphere so that the reservoir cannot be overcharged. The valve cuts in again when the pressure in the reservoir drops to 87 lb./sq. in.

The pressure regulating valve fitted in the gearbox control line is designed to protect the air brake system. Until the reservoir pressure reaches a safe working minimum (60 lb./sq. in.) the gearbox control is inoperative. When the pressure is sufficient to overcome that of the regulating spring, the diaphragm is lifted, unseating the release valve to open the supply line.

Because the air pressure required for gearbox operation is limited, the reducer valve, which is also fitted in this line, restricts this to 62.5 (± 2.5) lb./sq. in. Minimum maintenance is required on this system; apart from regular replenishment of oil in the compressor sump, periodic security checks and cleaning of filters, no servicing should be necessary between major overhauls. The D1 brake valve is of the fully graduating type, the delivery of air pressure being proportioned to movement at the brake pedal, to which the valve drop arm is connected by linkage.

As indicated in our May 31 issue the Teheran bus seen in Central London on May 27 made a sensation in otherwise busless streets, but we suspect that these striking vehicles would in any event attract attention; they will be a success on the streets of Teheran.

High Duty Alloys, Limited, announce that, from June 2, the address of its Scotland and Northern Ireland area sales office is Atholl Avenue, Hillington, Glasgow, S.W.2. Telephone: Halfway 5274.

DAGENHAM FORD EXPANSION

(*Continued from page 10*)

All cores are made by 39 semi-automatic vertical core blowers which force the sand mix into core-boxes producing the various shapes of cores required. The cores then go by conveyor to five continuous horizontal ovens for baking. These are built at elevated level to facilitate operations and to provide storage space beneath. After delivery from the ovens, the cores have their external faces coated with a special wash to protect them from the molten metal. This wash is dried in three horizontal core-wash drying ovens. Nine core-grinder machines remove surplus sand where required.

Services

The steam and gas mains and the power cables all follow the line of a common trestle-way to the new site from the company's power house and coke ovens—a distance of about half a mile. A main road joining the main plant to the Southend Road (A13) is carried northward over a new railway bridge and a new connecting road eastwards runs over the River Beam to the foundry. In addition to the roads, nearly a mile of new railway sidings were constructed for transporting raw materials.

The design and layout of the Thames Foundry is the result of an exhaustive study by the British Ford company's engineers of all the principal foundries in America, Europe and Britain. This, coupled with the company's 30 years' experience of foundry operations, has resulted in a foundry having an orderly flow of work and incorporating the maximum degree of mechanisation and automation, thus reducing human effort to the minimum compatible with maximum production output. Despite periods of national emergency and material shortages, the foundry was built in record time, the first pile having been driven in March, 1955. The company's own civil engineers were responsible for the buildings and are to be congratulated on a fine example of modern industrial architecture, as is the Ford Motor Co., Limited, on completing yet another facility amplifying the factory's unique self-contained nature.

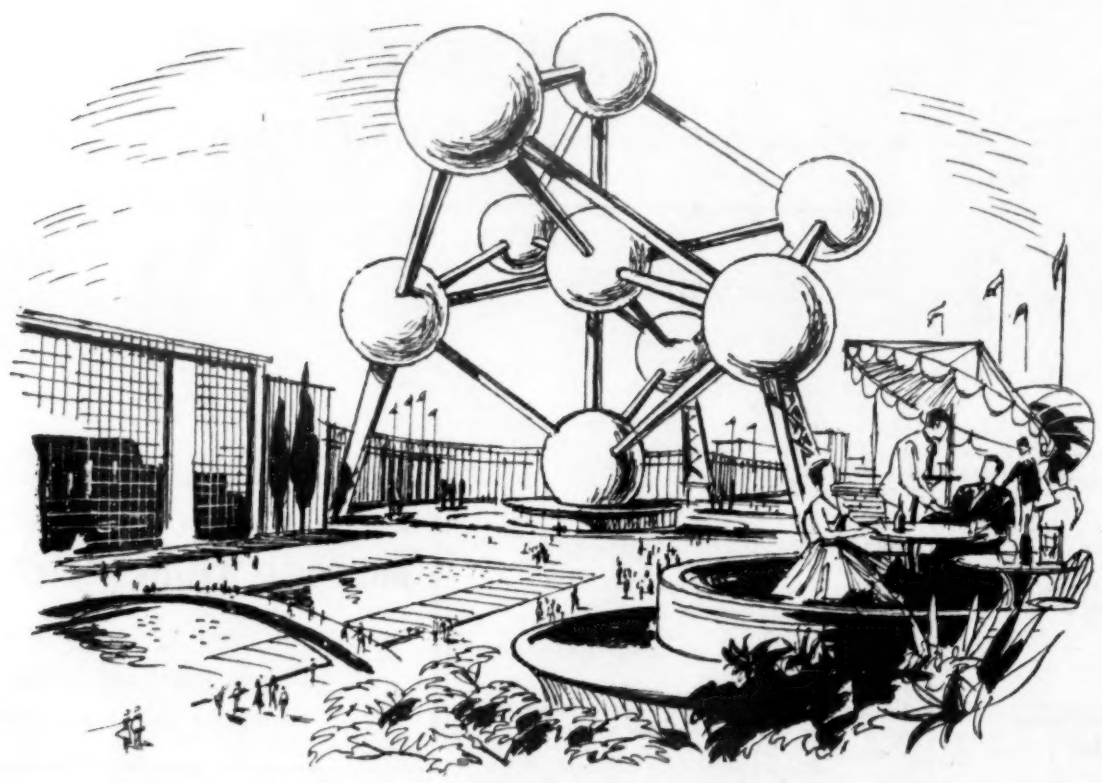
The address of the Manchester depot of Wilmot Breeden, Limited, will be Claremont Road, Manchester, 14 (telephone: Moss Side 3984) from July 1.

A new company, F. Perkins Kundendienst G.m.b.H., has been formed by F. Perkins, Limited, at Hanauerstrasse 43, Aschaffenburg, Germany, to ensure first-rate after-sales service for thousands of Perkins diesel engines operating in Germany. The company will be in full operation before harvesting starts and will be solely concerned with service, sales continuing to be directed from Peterborough.

The Molyspeed Corporation has been formed by Mr. Stephen Gensinger at 880 Bloomfield Avenue, Clifton, New Jersey, U.S.A., to organise the sale and distribution of the British molybdenised automotive engine lubricant additive Molyspeed, Moly Spring Lubricant and other molybdenised motor lubricants, which are manufactured by Rocol, Limited, Swillington, near Leeds. Molyspeed, which was introduced to the British market by Rocol, Limited, last September, is now being marketed in 30 other countries.

ALUMINIUM OUTSTANDING

at the Brussels World Fair



The Atomium, symbol and centre of the Brussels World Fair 1958. This 320 ft. high structure represents an elementary iron crystal. The nine large spheres, each 59 ft. in diameter, are made from steel, clad with high purity electrolytically-brightened aluminium. The spheres, which are connected by tubes enclosing escalators, house exhibits showing the results of research into peaceful uses of atomic energy.

At no other previous world fair or exhibition, nor in fact in any other built-up area of comparable size, has so much aluminium been used before in building.
It is estimated that over 2,000 tons of aluminium have been used throughout this World Fair. Here are a few of the outstanding examples:

CANADIAN PAVILION
Aluminium span windows, stairway and external doors.

BRITISH PAVILION
30 tons of NORAL aluminium used for the roof.

AMERICAN PAVILION
Aluminium extrusions used to support transparent plastic roof.

RUSSIAN PAVILION
340 tons of aluminium sheet and extrusions used in the roof.

SPANISH PAVILION
Aluminium window frames.

TURKISH PAVILION
Aluminium roof.

PALAIS DES TRANSPORT
150 tons of Aluminium used in the roof structure.

PALAIS II
About 70 tons of aluminium used for the anodised facade.

PALAIS DE L'ELECTRICITE
An aluminium facade.

ROAD TRANSPORT VIADUCT
2,600 ft. viaduct will incorporate a decorative aluminium balustrade.

58

If you are visiting the Fair make a point of seeing the Kitimat-Kemano and Aluminium Exhibits at the Canadian Pavilion

Aluminium Union Limited
(*Incorporated in Canada*)

ALUMINIUM LIMITED

THE ADELPHI · JOHN ADAM STREET · LONDON W.C.2 · ASSOCIATED COMPANIES AND AGENTS THROUGHOUT THE WORLD · *An Aluminium Limited Company*

EXHIBITION AT LONGBRIDGE

Many Special Applications of Austin Chassis

WITH over 140 exhibits, the commercial vehicle show organised recently at Longbridge by the Austin Motor Co., Limited, was the largest of its kind ever put on in this country, underlining the adaptability of the Austin commercial vehicle range and its popularity with specialist bodybuilders and operators. An outstanding impression of the exhibition was the great number and wide diversity of work from the smaller coachbuilding concerns, some of which, for various reasons, do not normally have an opportunity of exhibiting at the large national and international commercial vehicle shows.

Interesting among the many conversions of the lighter Austin vehicles were a high-top mobile shop by Martin Walter, Limited, on the A152 Omnivan; an extremely attractive ice-cream van by Kennings, Limited, on an A101 10-cwt chassis; a Kenex Coachworks 13-seat coach, also based on the Omnivan; a refrigerated van on the LD2 30-cwt. chassis by James Cocker and Sons (Southport), Limited; and a number of specialised applications of the recently introduced four-wheel-drive Gipsy. The Gipsy section included a Pyrene fire engine, a Mann Egerton breakdown vehicle and trailers for various purposes.

Vehicles incorporating special load-handling facilities included a 5-tonner equipped with the Fisher and Ludlow Fisholow Cargon system, in effect a roll-on-and-off false floor that enables a complete load to be moved on or off a vehicle in a few seconds. The apparatus is light in weight and is made in standard vehicle sizes and one Cargon with a 3-ton load can be rolled on or off the vehicle by one man. Also shown was a 5-ton platform lorry fitted with a Neal 1-ton hydraulic crane and a 3-5 ton hydraulic rotary crane on a 7-tonner by Brown and Tawse Plant, Limited.

A specialised working exhibit was the Market Loader powered by the vehicle battery fitted to a Litex insulated 3-ton van shown by Walkers and County Cars, Limited, which company also showed a 20-ft. insulated container-type meat body panelled internally with a new plastics-coated sheet metal. The material, which introduces a new high standard of cleanliness to meat-transport vehicles, can also be applied in corrugated non-slip form to the floor.

Attractive sliding-door cab and open-sided light-alloy delivery body on a 2-ton chassis exhibited by John Bryant and Sons, Limited; long-wheelbase 5-tonner with alloy-framed plastics cab and light-alloy brewer's body by Holmes (Preston), Limited; below, simple unloading of a 5-tonner with the Fisholow Cargon system; and, right, a 20-ft. Litex insulated meat container lined with easily cleaned plastics-coated sheet metal shown by Walkers and County Cars, Limited

Historic Commercial Vehicles

FIRST RALLY AT SPURRIER WORKS

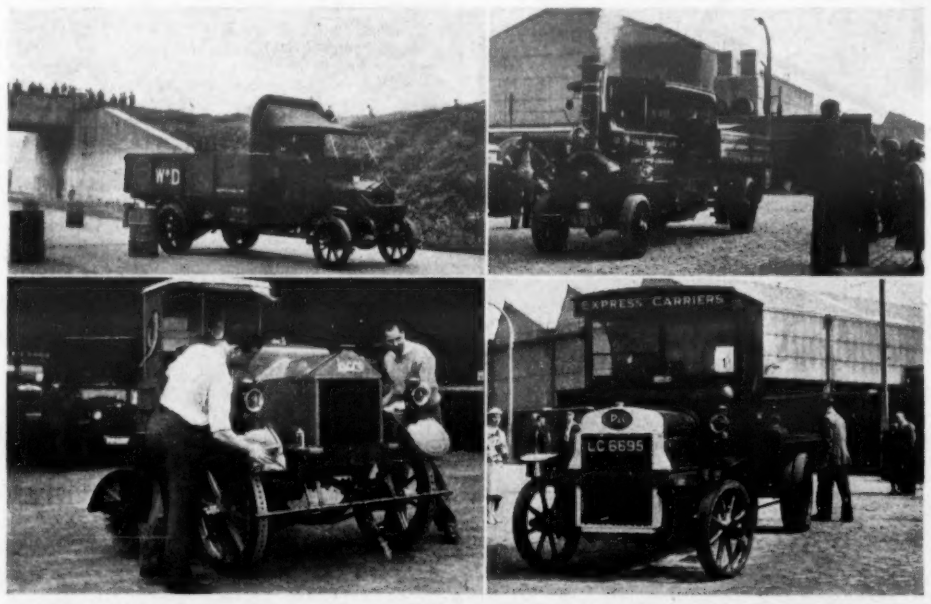
HELD at the Spurrier Works, Leyland, Lancs. over the weekend, the first rally organised by the Historic Commercial Vehicle Club attracted more than 20 entries, representing a good cross-section of light and heavy commercial vehicles, both goods and passenger, produced 20 to 50 years ago. A number, including a 1918 Albion, a 1920 Lacre road sweeper, a 1922 Daimler with a bottle body, a 1923 Rolls-Royce breakdown lorry, a 1926 T-type Ford ice-cream van and a 1928 1-ton Morris-Commercial took part in a ceremonial run through Preston.

Most ancient of the entries was a 50-year-old Leyland, an X-type 35-h.p. petrol-engined 3-ton lorry entered by Leyland Motors, Limited, and driven by Sir Henry Spurrier, chairman and managing director of the company. Beautifully preserved, this vehicle was supplied originally to Carter Paterson and Co., Limited, and was operated by that company until 1932. The other Leylands present were a War Office subsidy 3-tonner of 1917 vintage, a 1921 FE2 fire engine, a 1927 Lion PLSC single-deck bus only just taken out of service with Jersey Motor Transport Co., Limited, a 1925 2½-ton A1 lorry and a 1931 Titan Lowbridge double-decker.

The one representative of steam motive power was a 1916 Foden 5-ton lorry. Entered by Streetly Garage, Limited, Birmingham, it performed impeccably in the hands of Mr. M. J. Sparrow and was adjudged the winner of the Class I award. Runner-up in this class was another excellent performer for its year, a 1916 Vulcan 30-cwt. van entered by J. H. Sparshatt and Sons, Limited, Portsmouth. Winner of the Class II award was the Leyland 2½-ton lorry mentioned above, also entered by J. H. Sparshatt and Sons. Second place in Class II went to a 1920 Lacre L-type road sweeper, entered by Mr. D. A. Thomas, Welwyn Garden City.

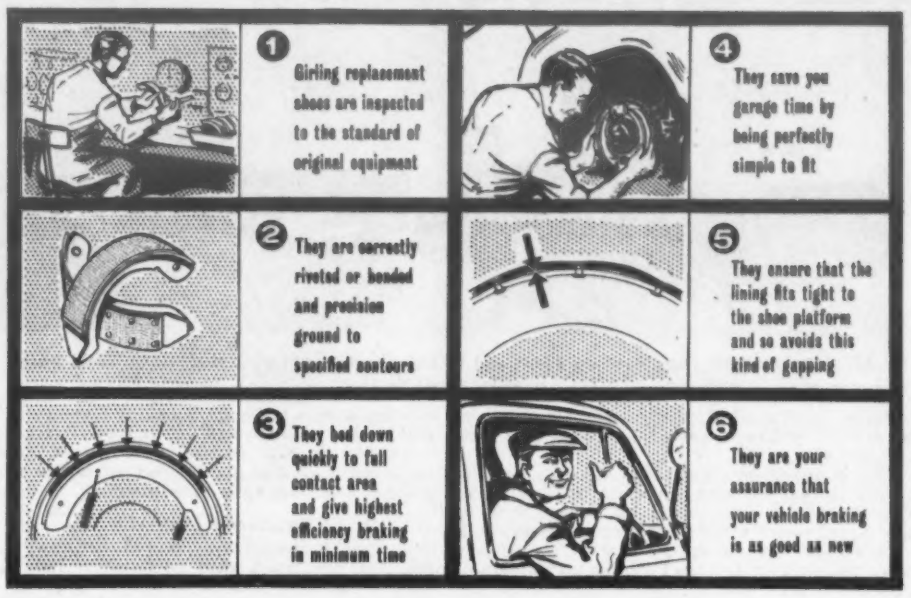
Class III, for the most recent vehicles, was won by an original chain-driven two-stroke Trojan ½-ton van, previously in Brooke Bond service, entered and driven by Mr. E. R. Ineson, Gloucester. A second Trojan, a 1926 traveller's brougham entered by the Trojan Owners Club and driven by Mr. C. H. Peacock, won a special award, the Rootes Cup, with the 1918 Albion in second place and an American-built 2-ton Traffic Truck of 1914-18 war vintage third.

Interesting for being representative of marques successful and popular in their day but no longer in production were a 1914 Hallford general-service W.D. lorry entered by the Sparshatt company and still in original condition and a 1934 Gilford 168 coach. Novelty was provided by the sale of ice-cream from the 1926 Model T Ford van, recently restored to original condition by the original operator, T. Wall and Sons, Limited, which also entered it in the rally.



Some of the older entries in the rally: A 1914 Hallford W.D. lorry entered by J. H. Sparshatt and Sons, Limited, and still in original condition; a 1916 Foden 5-ton steamer entered by Streetly Garage, Limited (winner in Class I); below, a 1920 Lacre road sweeper entered by Mr. D. A. Thomas; and, right, a 1908 X-type Leyland 3-tonner which was in Carter Paterson service until 1932 entered by Leyland Motors, Limited

6 GOOD REASONS
FOR FITTING GIRLING REPLACEMENT SHOES


1 Girling replacement shoes are inspected to the standard of original equipment
2 They are correctly riveted or bonded and precision ground to specified contours
3 They bed down quickly to full contact area and give highest efficiency braking in minimum time
4 They save you garage time by being perfectly simple to fit
5 They ensure that the lining fits tight to the shoe platform and so avoids this kind of gapping
6 They are your assurance that your vehicle braking is as good as new

Don't reline—replace with
GIRLING FACTORY LINED
REPLACEMENT BRAKE SHOES

GIRLING
THE BEST BRAKES IN THE WORLD

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I'm the NEW KEW DODGE with the FORWARD LOOK

Everyone is admiring the trim modern styling of the Forward Control Dodge and commenting favourably on the panoramic visibility of the well appointed cab. These trucks are hard working as well as good looking. There are three wheelbase lengths to each model group; a choice of four power units; four- and five-speed gearboxes; and rear axle options. Added versatility is provided by a long list of optional fitments and alternative tyre equipment. See your nearest Dodge Distributor or Dealer for the full specification details and you will appreciate why "A Dodge lasts longer—much longer!"

21 different chassis to match your requirements exactly.

Nominal Payload ratings: 5, 6 & 7 tons.

KEW DODGE

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NEW CANAL CUT

Steel Tank Lock at Thurlwood

TRENT AND MERSEY WORKS

FORMAL opening on May 19 by Lord Rusholme (a member of the British Transport Commission and chairman of the Waterways Sub-Commission) of Thurlwood Upper Lock and Marston New Cut on the Commission's Trent and Mersey Canal in Cheshire, marks the successful completion by British Waterways (North Western Division) and the contractors of a major engineering operation to keep the canal open for traffic. This has involved an expenditure of about £90,000 to bring under control the threat to the canal by increasingly extensive subsidences from past salt-pumping operations.

Steel tank lock at Thurlwood on Trent and Mersey Canal and, right, new cut to avoid brine subsidence at Marston

The section of the Trent and Mersey Canal involved is that between Anderton and Stoke-on-Trent—originally engineered by James Brindley about 1766—over which there now passes annually some 60,000 tons of traffic between the Mersey ports, Manchester, and the Potteries and Midlands. The new works now completed comprise a pre-fabricated steel tank lock at Thurlwood and a 1,750-ft. deviation of the canal at Marston which is believed to be the first section of canal to be cut in this country for over 50 years.

Rock Salt

It was as long ago as the mid-seventeenth century when a seam of natural rock salt, about 100 ft. below ground level, was discovered on the Marbury Estate near Northwich. Salt mines were established in the area, including a mine at Marston, and large quantities of rock were removed. When the mine ceased to be worked water flowed into the mines and the pillars which had been left to form support for the land above were soon eaten away and subsidence resulted. Three beds of rock salt were opened up at Thurlwood in 1779, shortly after the opening of the Trent and Mersey Canal. The discovery of the lower two seams at Rode Heath led to other miners in Cheshire making further investigations and subsequently working lower and richer seams of rock salt. In the course of time some of these workings were flooded and extraction of salt changed from mining to brine pumping.

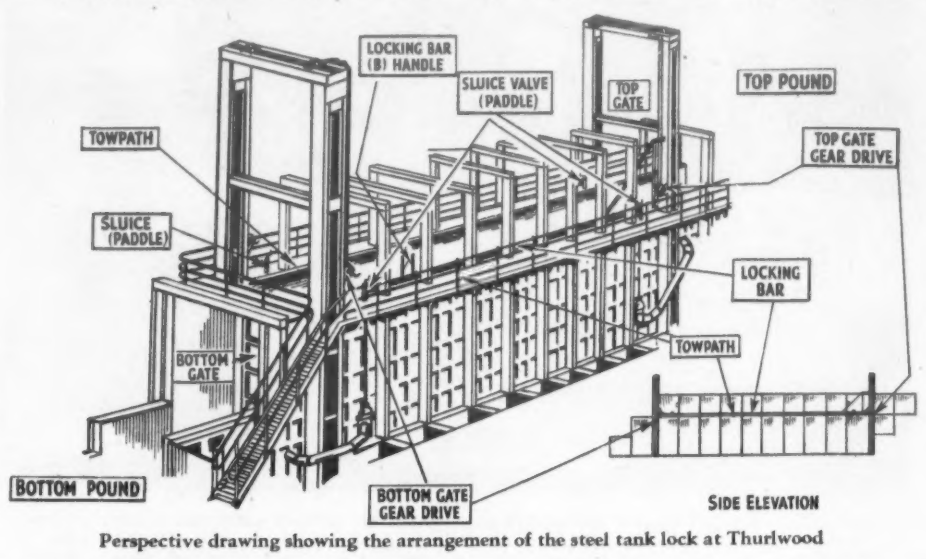
Thurlwood Upper Lock

In the Thurlwood, or Rode Heath, area brine pumping continued until 1927, when the works were abandoned because of the collapse of the shaft, due to severe subsidence. This gradually encroached upon the area of the canal itself and by 1950 it had reached the Thurlwood Upper Lock. The first indication was a severe break of the top gate cill and forebay, and this was rapidly followed by a serious cracking of the invert of the towing path lock. Property adjacent to this lock was also affected and by 1953 it was so badly damaged that it had to be demolished. The towing path lock was reconstructed in the traditional brick and masonry materials and a few weeks after re-opening the offside lock showed signs of similar failure. This too was put out of commission and extensively reconstructed and put back into service. Once again the towing path lock was affected by subsidence. The Double Arch Bridge spanning the two locks at Thurlwood had also become unsafe and in spite of attempts to strengthen the arches, demolition became inevitable and a temporary bridge was erected across the locks. It then became clear that considerable works would have to be undertaken if the canal were to be kept open.

It was decided to construct a steel tank which would be self-supporting in the event of differential settlement and which could be jacked into a straight and level position following subsidence. The lock pit would be effectively sealed from canal water to prevent flooding.

Steel Tank Lock

The order for the steel work was placed early in 1956, but due to a serious shortage of steel during 1956-57 there was a considerable delay in the delivery of the lock. The lock was prefabricated at the contractor's works and sections were delivered to the site by road for re-erection towards the end of 1957. It is 106 ft. long, 45 ft. long overall and 18 ft. wide overall. The tank is 72 ft. long, 7 ft. 9 in. wide and 18 ft. deep. The temporary bridge referred to has been replaced by a pre-stressed concrete beam structure.



Perspective drawing showing the arrangement of the steel tank lock at Thurlwood

Support for Lock

Concrete abutments support the lock at the upper and lower ends and further support is given between these by concrete stools spaced at 8-ft. centres. The stools and abutments contain jacket pockets for raising the whole or any part of the lock. The main members of the steel lock correspond with the points of support and slight subsidence can be countered by the insertion of steel packing between the main members and the stools. The upper and lower ends of the lock are sealed in a bed of clay, rammed hard between the steelwork and the concrete abutments. This clay puddle is joined to the cores in the towing path above and below the lock to give a continuous seal.

Guillotine gates are installed to avoid intricate castings and expensive steelwork in forming mitres, heels and gate recesses. They are chain-driven and a locking device prevents more than one gate being lifted at any one time. The sluice and sluice pipes are fitted externally, but in principle are based upon traditional lock equipment. Four sluices are installed, two to fill the lock and two to empty. Total cost of the work was £61,000. The contractor was Sir William Arrol and Co., Limited, of Glasgow, which was also responsible for the pre-fabrication of the lock at its works and the eventual reconstruction on the site.

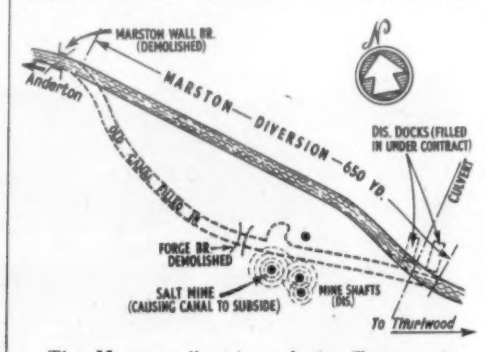
The Marston Diversion

Disused shafts which formed part of the old salt-mining area also created the precarious position which existed on that section of the Trent and Mersey Canal at Marston. The discovery of natural rock salt at Marbury has meant almost three centuries of salt mining in the area and today Northwich is still an important centre of the salt industry. The Cheshire brine field produces about 82 per cent of the country's total production and most of this is mined near Northwich.

When the workings were abandoned one of four shafts, only a few feet away from the canal towing path and descending 300 feet, was not properly sealed, with the result that, over the years, salt solution has enlarged the underground cavity and caused the original brick lining of the shaft to collapse. The edge of the conical crater, where the shaft reached the surface, came dangerously close to the original section of the canal and on one occasion in recent years reached the clay puddle behind the canal wall.

Plug

In an attempt to block the old shaft, thousands of tons of material were dropped into the cavity to form a plug, but this proved to be unsuccessful and the subsidence of these plugs has become more frequent and more extensive. Since 1928 there has been a constant danger of the crater reaching the canal when the inflow of water would scour out a large hole and also completely drain the adjoining section of the canal. The fill in the shaft has fallen as much as 45 ft. overnight.



The Marston diversion of the Trent and Mersey Canal

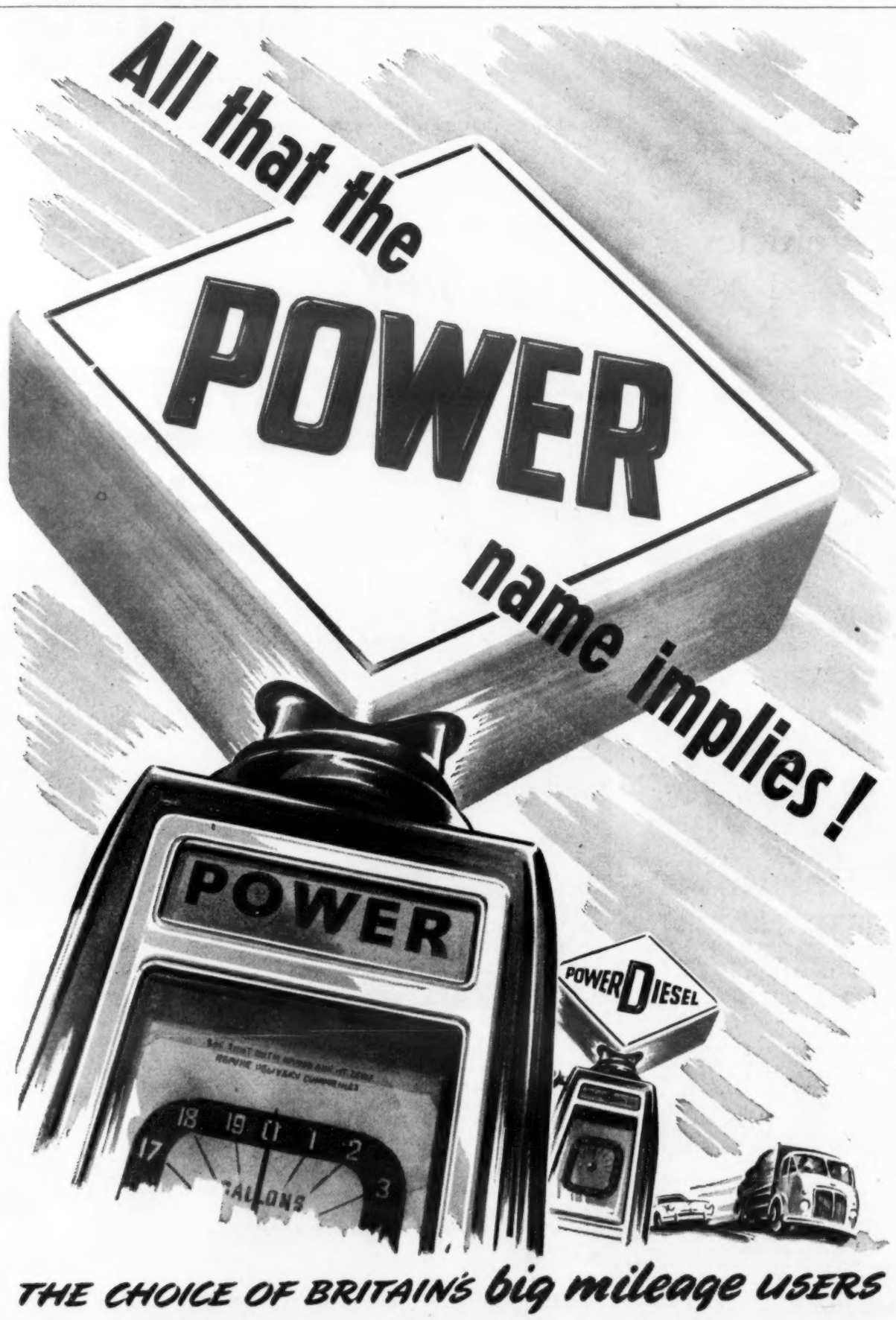
A critical examination of the affected area revealed that the danger to the canal bank was likely to increase and that further tippings would not prove a satisfactory permanent remedy. It was therefore decided that the only way to alleviate a potential threat to navigation on this busy section of the canal was to cut a completely new diversion from the immediate locality of the shafts. Work was started in the late summer of 1957 and it was originally intended that the channel should be completed and open to traffic within 16 weeks, but bad weather caused the site to become so waterlogged and soft that virtually no work could be undertaken. The diversion was ultimately completed in March this year.

Extent of Work

The length of the diversion is 1,750 ft. and its overall width is 55 ft. The width at normal waterline is 40 ft. and the depth is 5 ft. Bed width is 20 ft. and the width of towpath is 8 ft. Concrete waterway walls extend along the towpath side for 1,320 ft. and on the offside for 1,400 ft. These concrete walls vary from 4 ft. to 12 ft. in depth. Their width is 2 ft. Depth of steel piling varies from 9 ft. to 18 ft. and 750 ft. of piling was driven. Some 20,000 cu. yd. of excavation was carried out and the volume of clay puddle used on the job was 1,700 cu. yd.

Because it was not possible to cut a new channel clear of the general subsidence area, provision had to be made for future raising and for effective

(*Continued on page* 16)



SOCIAL AND PERSONAL

North Eastern Area Board

THE British Transport Commission announces the appointment of Mr. John Bowman, O.B.E., J.P., and Sir George Walton, K.B.E., C.B., T.D., D.L., as members of the North Eastern Area Board, with effect from June 1. Mr. Bowman is a part-time member of the North Eastern Electricity Board, a director of North Eastern Trading Estates, Limited, and a member of the executive council of the North East Industrial and Development Association. Sir George Walton is a director of Thomas Hedley and Co., Limited, of the Morgan Crucible Co., Limited, and chairman of the Industrial Management Research Association.

* * *

Mr. Harold Clay, M.Inst.T., is to retire from the B.R.S. board of management on June 30. He has been a part-time member since 1953. Mr. Clay was appointed a member of the Road Transport Executive on its formation in 1948 and continued in that capacity with the Road Haulage Executive. He has also been a member of the British Transport joint consultative council, the national staff council of British Road Services and chairman of the B.R.S. national joint negotiating and consultative committees. In 1922, when the Transport and General Workers' Union was formed, Mr. Clay was appointed the first area secretary for area No. 9 (Yorkshire), and two years later became national officer of the road passenger services group. He

Mr. J. W. Sutton, works director since 1957, has joined the board of Dennis Brothers, Limited, of Guildford.

* * *

Mr. L. Clements, export manager of Ferodo, Limited, retired on May 31 after 39 years' service with the company and is succeeded by Mr. J. C. T. Fell.

* * *

The appointment of Mr. D. J. Swift as Ministry of Transport Deputy Chief Road Engineer, Scotland, announced last month, has been cancelled, at his own wish, and Mr. H. N. Ginns, B.Sc.(Eng.), A.M.I.C.E., has been appointed to the post.

* * *

Mr. H. H. Bates is to retire from the managing directorship of the National Benzole Co., Limited, from September 30, when he will be succeeded by Mr. A. M. Robertson, who is at present general manager.

* * *

Mr. Walter West, who has been appointed chairman of Scammell Lorries, Limited (see elsewhere on this page) is vice-chairman and deputy managing director of Leyland Motors, Limited. Formerly assistant managing director of the Leyland company, he has been a member of the board and managing director of the subsidiary, West Yorkshire Foundries, Limited, since 1946. Mr. West joined Leyland in 1924 as assistant manager of the steel works at Farington, and took over the

Mr. Harold Clay

Mr. W. West

was appointed national secretary of the passenger group in 1925 and in 1940 took over the duties of assistant general secretary of the Union. Mr. Clay was joint secretary (and leader for the employees' side) of the National Joint Industrial Council for the Road Passenger Transport Industry and the National Council for the Omnibus Industry, and a member of the Road Haulage Wages Board and the National Joint Industrial Council for the Road Haulage Industry. On several occasions he represented British road transport workers at meetings of the International Labour Organisation and was chairman of the workers' group. Mr. Clay has served, inter alia, on the education committee of the British Institute of Management and is a visiting fellow of Nuffield College. From 1943 to 1958 he was president of the Workers' Educational Association and for services in the field of education he had conferred upon him in 1953 the honorary degree of doctor of laws of Manchester University.

* * *

Sir Archibald F. Forbes, G.B.E., chairman of the Iron and Steel Board, has been appointed to the boards of two industrial companies, the Dunlop Rubber Co., Limited, and the English Electric Co., Limited.

* * *

Mr. W. Norman Hart, managing director of Kerry's (Great Britain), Limited, arrived at London Airport on May 31, after having spent a month meeting the company's agents in Canada and the U.S.A. During the course of his tour, Mr. Hart visited Montreal, Toronto, Winnipeg, Vancouver, Seattle, Los Angeles, San Francisco, Cleveland, Boston, Philadelphia and New York.

managership of the plant in 1935. During the 1939-45 war, in addition to managing the company's steel and iron foundries, he undertook the position of controller of Leyland Motors (Ministry of Aircraft Production Factory) in Leeds. When this foundry became a subsidiary of Leyland Motors in 1946 under the name of West Yorkshire Foundries, he was appointed its managing director. In 1950 Mr. West became joint general manager of Leyland with Mr. Stanley Markland, and three years later when a reorganisation was made in the higher executive control at Leyland, he was appointed assistant managing director of the company, becoming deputy managing director in 1956.

* * *

Sir Henry Spurrier, chairman and managing director of Leyland Motors, Limited, has been appointed a part-time member of the Iron and Steel Board. In view of his appointment, Sir Henry has relinquished his position as chairman of Scammell Lorries, Limited, although he will remain on the board. Mr. Walter West, vice-chairman and deputy managing director of Leyland Motors, has been appointed chairman of Scammell Lorries.

* * *

Mr. H. Mortimore is appointed executive assistant (sales) to the managing director of the Ford Motor Co., Limited, in which capacity he will advise him on aspects of domestic sales and trade policies. To enable him to devote sufficient time to these new responsibilities, Mr. Mortimore has relinquished, at his own request, direct responsibility for domestic sales operations. Mr. J. S. Kemp is appointed general sales manager, car and truck domestic division.

Presentation of awards at the first Historic Commercial Vehicle Club rally at Leyland last week; left to right, Lord Montagu of Beaulieu, Mr. C. H. Peacock (Rootes Cup), Mr. Sparshatt (Class II winner), Sir Henry Spurrier, Mr. M. J. Sparrow (Class I winner) and Mr. E. R. Ineson (Class III winner). Story is on page 13

Mr. A. J. Spong has been appointed principal assistant (financial investigation) in the office of the financial investigation officer, London Transport Executive.

* * *

We regret to record the death of Mr. J. D. (Jack) Olding, president of Jack Olding and Co., Limited. He was 67. His business is one of the largest British undertakings handling earth-moving and associated machinery. He secured the manufacturing rights of the American Caterpillar tractor, having imported complete machines from 1935 onwards.

* * *

Mr. W. G. A. Hall, M.Inst.T., chief engineer of the Potteries Motor Traction Co., Limited, has been appointed to succeed Mr. H. R. Lane, M.B.E., M.Inst.T., chief engineer, Southdown Motor Services, Limited, on his retirement. Mr. Hall will assume his new duties on September 1. He served with the Birmingham and Midland Motor Omnibus Co., Limited, in various capacities from 1920 to 1953, when he was appointed chief engineer of P.M.T.

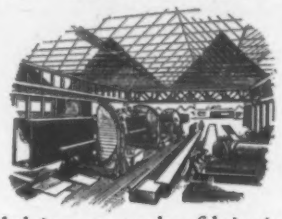
We record with regret the death of Mr. John M. Morris, sales director of Coventry Climax Engines, Limited. He was 53 and received his engineering training as a pupil of Alfred Herbert, Limited. He joined Coventry Climax in 1948 and had been prominent in the development and growth of mechanical handling in Great Britain and the Commonwealth, particularly with regard to the utilisation of the fork-lift truck. Mr. Morris was president of the British Industrial Truck Association.

* * *

Mr. J. W. Read, senior budgets assistant, has been appointed an assistant director of accounts, accounts and statistics division, B.T.C. Mr. Read entered the service of the Great Western Railway in 1929 in the chief accountant's office. He became secretary of the railway accountants' general expenditure sub-committee upon nationalisation, and was shortly transferred to the comptroller's department of the British Transport Commission as assistant to the director of accounts. He was appointed senior budgets assistant in 1953.

The birth of
New Techniques

Continually the frontiers of science advance, and our knowledge becomes more exact. At the same time the result is that new techniques are developed, used and discarded in favour of those yet newer. In steel structures it is now possible to take advantage of the economies possible when rigid designs are made. Welding has made many of these designs possible. Cleveland's important contribution has been in helping to make fabrication for such structures practicable and economic. Manipulators and handling equipment have been specially designed to reap full benefit of the automatic welding in which the Company specialises.



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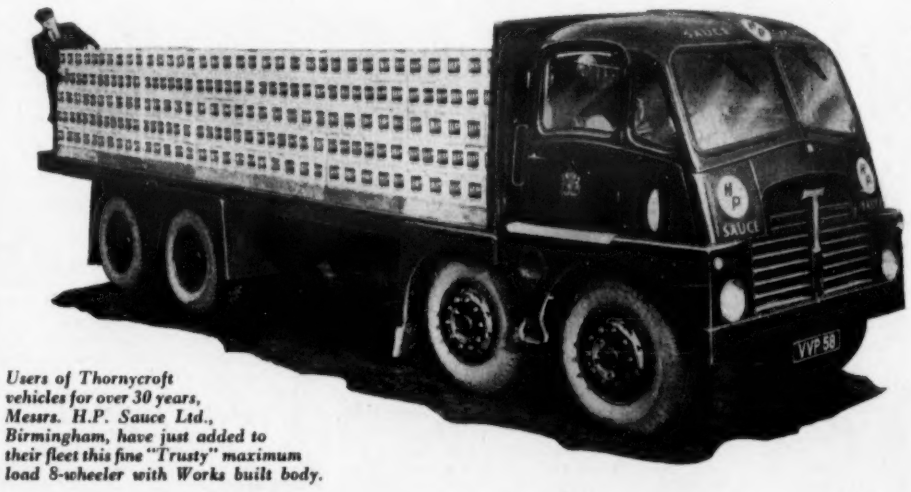
VEHICLES
for every TRADE and INDUSTRY



Users of Thornycroft vehicles for over 30 years, Messrs. H.P. Sauce Ltd., Birmingham, have just added to their fleet this fine "Trusty" maximum load 8-wheeler with Works built body.

LORRIES · BOX VANS
TANKERS · TIPPERS
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SPECIALISED TRADES

TRANSPORT EQUIPMENT (THORNYCROFT) LIMITED
THORNYCROFT HOUSE, SMITH SQUARE, LONDON, S.W.1 Abbey 8000

IMPORTANT CONTRACTS

Viscount Sales Near 400

RECENT orders announced by Vickers-Armstrongs (Aircraft), Limited, from three operators for Viscount turboprop air liners has brought the total Viscount sales to date to 390. The latest orders comprise four Viscount 810s for the Australian airline Ansett-A.N.A. for delivery early next year (type number V832), three 810s for the Hunting-Clan group also for delivery in the first part of 1959 (type number V833) and four 800s for Aer Lingus with delivery beginning at the end of this year (type number V808). Aer Lingus was one of the earliest Viscount operators and has had four 700s in service since 1953. It ordered three 60-seat 800s in March, 1956, and its fleet will now be increased to six of this series and the V707s will be sold. The new Hunting-Clan machines will normally operate as 64-seaters. They will be delivered with Rolls-Royce Dart 525 engines giving a cruising speed of 365 m.p.h., but the operator intends to fit the more powerful Dart 541s when they become available in 1960, which will increase the cruising speed to 400 m.p.h.

Mercedes Vehicles for Australia

The Daimler-Benz Company, Stuttgart, and Standard Motors Products, Limited, Melbourne, have announced that they are to form a company to develop the Australian market for Mercedes-Benz vehicles and engines. The new company will also explore export opportunities in the south-west Pacific area. Standard Motor Products already assembles, manufactures and markets products of the British Standard company in Australia.

New Eastern Region Contracts

The Eastern Region of British Railways announces the following contracts:

W. and C. French, Limited, Buckhurst Hill, for construction of new bridge between Royden and Burnt Mill stations and strengthening of bridge over Keadby and Stainforth Canal.

Fuller Electric, Limited, London, E.17, for erection of feeder station and track sectioning cabin and associated equipment between Colchester and Clacton.

Cowans, Sheldon and Co., Limited, Carlisle, for one 53-ft. dia. vacuum-operated articulated turntable at King's Lynn Station.

Manchester—Bury Line Equipment Ordered

The British Transport Commission has placed an order with the English Electric Co., Limited, Bradford, for 26 four-motor electric equipments for new two-car multiple-unit trains to be built at British Railways Wolverton works for the Manchester—Bury electrified line of the London Midland Region. The first of the new multiple-unit trains will be introduced early next year in replacement of the present trains, now over 40 years old.

Sixty Albion Buses for Ceylon

An order by the Ceylon Transport Board for 60 Albion Victor bus chassis with M.C.W. 38-seat bodies worth £250,000 has been added to the £650,000 orders already placed by this operator with the Leyland Motors group. Departures from the standard Victor will be a shortened wheelbase of 15 ft. 6 in. and the use of the Leyland O350 diesel engine in the interests of standardisation in the fleet, which will now include 260 Leyland and Albion O350-engined buses.

Hudswell Clarke Diesel Repeat Order

Hudswell, Clarke and Co., Limited, has received from the Crown Agents for Oversea Governments and Administrations an order for a further eight diesel hydraulic locomotives for the Sierra Leone Government Railway. This brings the number of locomotives the company is building for this railway up to 16, and the total value of the contract to approximately £500,000. The locomotives are being fitted with a Paxman Hi-Dyne (constant horsepower) diesel engine, together with a Vulcan Sinclair Dual Fluidrive transmission unit.

TENDERS INVITED

THE following items are extracted from the Board of Trade Special Register Service of Information. Inquiries should be addressed, quoting reference number where given, to the Export Services Branch, Board of Trade, Lacon House, Theobalds Road, London, W.C.1.

June 12—Union of South Africa.—Tender and Supplies Board for two 23-h.p. (min.) wheeled DIESEL TRACTORS, with five-speed gearbox, hydraulic lift and hourmeter. Tenders to the Chairman, Union Tender and Supplies Board, Assize Buildings, 291 Bosman Street, Pretoria. (ESB/12746/58.)

June 12—Ethiopia.—Reissued by the Imperial Highway Authority for 40 diesel-engined 5 cu. yd. (min.) DUMP TRUCKS and 60 diesel- or petrol-engined 3 cu. yd. DUMP TRUCKS. Tenders to the Imperial Highway Authority, P.O. Box 1770, Addis Ababa. (ESB/22827 and 21372/58.)

June 15—Iran.—Iranian State Railways for 250 complete units of RAILWAY SWITCHES. Photocopies of tender documents from Export Services Branch, B.o.T., price 3s. (ESB/10717/58.)

June 19—Greece.—International Co-operation Administration for 930 TYRES for various graders, scrapers and tractors. Tender documents from the Greek Foreign Trade Administration, 1028 Conn. Ave., N.W. Washington, D.C.

June 20—Union of South Africa.—South African Railways for nine four-wheeled light INDUSTRIAL TRACTORS. Photocopies of tender documents from Export Services Branch, B.o.T., price 11s. (ESB/13419/58.)

July 12—Sudan.—The Sudan Gezira Board for three SHUNTING LOCOMOTIVES. Photocopies of tender documents from Export Services Branch, B.o.T., price 2s. (ESB/12624/58.)

MILLIONTH BEDFORD

(*Continued from page 6*)

using over 2¼ miles of 4-in. tubing is installed.

The correspondence section uses a battery of magnetic-disc recording machines. The clerks have on their desks a small microphone unit, connected to this battery through a special selector panel. The dictation is automatically recorded on discs, which are passed to the girls in the typing pool, to be transcribed from portable machines. The clerks can dictate at any time and a constant work load is maintained on the typing pool. A large section engaged on the supply of parts into the warehouse reviews the usage of every part at least once a month—in many cases more often.

With 30,000 part numbers in service, the regular distribution of parts information is vital. This is the role of the information section, which prepares and publishes parts books and distributes revisions on a regular monthly basis to all dealers throughout the world. This section is able to produce a fully bound parts book for all dealers at the time a new model is introduced, including both numerical parts information and detailed diagrammatic drawings. The pricing of parts is the concern of a separate section and the final section controls the company's field staff of parts representatives. It includes specialists in parts department layouts, stock control and all the other aspects of a dealer's parts operation. The new office building includes a large lecture room equipped with film and sound apparatus used as a training school for dealers' staff.

SHIPPING and SHIPBUILDING

I.M.C.O. Terms of Reference

PRELIMINARY arrangements for the establishment of the Inter-governmental Maritime Consultative Organisation which will become the twelfth specialised agency of the United Nations, will be initiated next week by a special preparatory committee. The 12-member committee will meet in private to plan a draft agenda and make other arrangements for the first session of I.M.C.O.'s assembly, expected to be held in London early next year. Its headquarters also will be in London.

Under its terms, the "consultative and advisory" agency will promote co-operation in technical matters; encourage adoption of the highest standards of safety and navigation; discourage discriminatory action or unnecessary restrictions by governments affecting international shipping; consider matters concerning unfair restrictive practices by shipping concerns; provide for the exchange of information; and take up any other shipping matters referred to it by any organ of the United Nations.

Largest B.P. Tanker to Date

THE largest oil tanker yet to be built for British Petroleum Co., Limited, the 42,000 dead-weight tons *British Duchess*, was launched from John Brown's Clydebank yard on June 2 by the Duchess of Gloucester. The B.P. Tanker Co., Limited, has six other vessels of the same size on order. Ships up to 65,000 tons are being built.

New Hull—Rotterdam Ships

THE Associated Humber Lines motorship *Bolton Abbey* which was launched last December at the Lowestoft yard of Brooke Marine, Limited, made her maiden voyage from Hull to Rotterdam on Wednesday this week. During the remainder of 1958 the 1,080-ton ship will sail weekly between these two ports, leaving Hull on Wednesdays and Rotterdam on Saturdays. She will take the place of the s.s. *Bury* which is being withdrawn from service at the beginning of June. A sister ship, the *Melrose Abbey*, will enter the service later this year; both will incorporate Marconi Marine communications equipment and radio navigation aids.

Canadian West Indies Service Stopped

EIGHT vessels, the last major deep-sea merchant fleet in Canada, are to be sold. They maintain the Canadian National Steamships' West Indies service and have been idle since a seamans' strike which began in July last year. The sale, announced by the Canadian Transport Minister, Mr. George Hees, will end a Government-owned service which, with repeated federal subsidies, has maintained a shipping link with the West Indies for decades.

Mr. Hees, reading a statement by the general manager of the owners, said private carriers had taken over former C.N.S. business. The future outlook "made it most unlikely that heavy operating losses could be avoided" if the ships went back into service. The ships, which were transferred to Trinidad registry last November, have been transferred back to Canadian registry for the purpose of the sale. Preference would be given to any Canadian buyer intending to use the ships in Canada—West Indies trade.

FINANCIAL RESULTS

NOTES on the trading results, dividends and financial provisions of companies associated with the transport industry are contained in this feature, together with details of share issues, acquisitions and company formations or reorganisations.

George Ewer

Group net profit of George Ewer and Co., Limited in the year 1957 was £32,897 (£17,300), after £30,927 (£17,059) tax. Final dividend is 12½ per cent, making 18¾ (10) per cent for year. Current trading results are not less favourable than those for corresponding period of 1957. Meeting July 17.

Southdown Motor Services

The July, 1957, bus strike, coming in the height of the holiday season, hit Southdown Motor Services, Limited, hard. Net profit is £149,523 (£228,034); receipts were £188,000 down at £3,501,368. Ordinary dividend is 10 per cent (same), carry forward £152,168 (£152,020), general reserve £20,000 (£100,000).

Hunslet Locomotives Canada

The Hunslet Engine Co., Limited, Leeds, has formed a new company, Hunslet Locomotives Canada, Limited, with registered offices at Haileybury, Ontario, to handle the Canadian market. The new company will improve the after-sales service facilities, which have hitherto been provided by Hunslet company from the United Kingdom in conjunction with its Canadian representation, Lecky Machinery, Limited, in Eastern Canada and Gordon Russell, Limited, in Western Canada. At present Hunslet locomotives are operating in most of the Canadian mining districts.

NEW CANAL CUT

(*Continued from page 14*)

watertight seals. The new line crosses the site of an old dry dock and a disused wet dock, and it was necessary to sever these completely from the new channel. A 100-ft. wide seam of running sand was encountered about half-way along the channel and this meant that the offside of the diversion had to be piled through the seam of running sand. The new route will be subject to the normal brine subsidence of the area, and in order to raise the canal both the towpath and the offside have 2-ft. thick concrete waterway walls extending down to firm ground. Behind the walls are clay puddle cores 3 ft. thick and pressed down to the bed level of the concrete walls.

Watertightness

Where the non-towing-path side of the canal bank crosses the old dry dock the concrete wall has been extended to about 1 ft. 6 in. below the invert level of the dock and founded on good quality marl. The clay core has also been extended to this depth. Interlocking steel piles have been used to cut off the wet dock.

Careful tests for watertightness over a period of eight days, during which time the channel was filled from the canal and sealed, proved to be satisfactory. On completion of the tests the barriers between the new channel and the canal were removed and traffic was diverted through the new cut to enable the now disused section to be sealed. This will be done initially with tipped earth and later by interlocking steel piles. The materials excavated from the new channel have been tipped and levelled into the bed of the old canal. Cost of the scheme, including purchase of land, was £30,000. The contractor is George Dew and Co., Limited, of Oldham, and the work was done under the general supervision of Mr. E. W. Ratcliffe, North Western divisional engineer, British Transport Waterways.

KARRIER 'BANTAM'

4-5 TON TRACTOR-TRAILER

with petrol or diesel power-unit and choice of coupling gear.

Example of a Karrier 'Bantam' tractor-trailer with 54 b.h.p. diesel engine and quick-release 'J' type coupling gear.

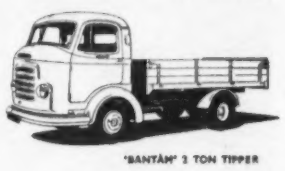
SPEEDS UP DELIVERIES!

THE KARRIER 'BANTAM' tractor-trailer combination—modern version of the original 'mechanical horse' designed and built by Karrier engineers in 1930—is a firmly established favourite in the industrial transport field. Hauling a full five-ton load with speed and economy, its manoeuvrability makes it ideal for quick work in busy city centres, and as the tractor can operate, if need be, with any number and variety of detachable trailers, no time is lost in loading or unloading.

★

'BANTAM' LOW-LOAD 2-3 TONNERS

with petrol or diesel engine to choice are also available.



'BANTAM' 2 TON TIPPER

'BANTAM' MOBILE SHOP

ROOTES PRODUCTS — BUILT STRONGER TO LAST LONGER!

KARRIER MOTORS LTD. LUTON BEDFORDSHIRE

EXPORT DIVISION: ROOTES LTD. DEVONSHIRE HOUSE PICCADILLY LONDON W.1

C.P. again for Bournemouth

Nine years ago we supplied the motors and control gear of twenty-four trolleybuses for the Bournemouth Corporation.

Last year the same Corporation ordered equipment from us for thirty new buses and this will be of our latest type with various features of advanced design.

At our Chelmsford Works we have been making electric traction equipment for something over sixty-five years. In the 1890's we supplied electric locomotives for the first underground system, the City and South London Railway, and have amassed a wealth of experience since then. Today we are still at the forefront of traction equipment design, and besides supplying equipment for trolleybuses and other road vehicles, we are equipping underground trains abroad, and some of the latest and most powerful diesel-electric locomotives for British Railways.

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Printed by Odhams (Watford) Limited, St. Albans Road, Watford, Herts, for and published by, Modern Transport Publishing Co., Limited, Russell Court, 3-16 Woburn Place, London, W.C.1.